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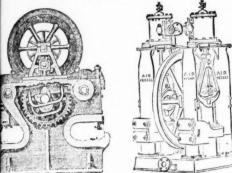
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2128.—Vol. XLVI

LONDON, SATURDAY, JUNE 3, 1876.

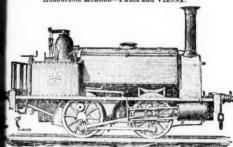
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A DIPLOMA-HIGHEST OF ALL AWARDS-given by the Geographical Congress, Paris, 1875-M. Favre, Contractor, having exhibited the McKean Drill alone as the Model Boring Machine for the St. GOTHARD TUNNEL.

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At the south end of the St. Gothard Tunnel, where

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24 90, 27 60, 24 80, 26 10, 28 30, 27 10, 28 40, 28 70 metres. Total advance of south heading during January was 121.30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere ($7\frac{1}{2}$ lbs.), showing almost the entire motive force to be available for the blow against the rock-a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUN-NEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

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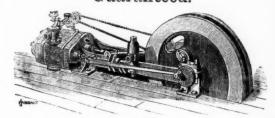
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CATALOGUES & ESTIMATES ON APPLICATION.

THE

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They have been supplied to some of the principal mines in the United Kingdom

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WASTE HEAPS, consisting of refuse chats and skimpings of a former washing, containing a mixture of lead, blende, and sulphur, DRESSED TO A PROFIT. ———

Mr. BAINBRIDGE, C.E., of the London Company's Mines, Middleton-in-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly profit on our Nanthead waste heaps amounted last year to £600, tesides the machinery being occupied for some months in dressing ore-stuff from the mines. Of course, if it had been wholly engaged in dressing wastes our returns would have been greater; but it is giving us every satisfaction, and bringing the waste heaps into profitable use, which would otherwise remain dormant."

Mr. T. B. Stewart, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superiorset of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

Mr. BAINBRIDGE, speaking of machinery supplied Colberry Mines, says—"Your machinery saves fully one-half on old wages, and vastly more on the wages we have now to pay. Over and above the saving in cost is the saving in ore, which is not much short of 10 per cent."

GREENSIDE MINE COMPANY, Patterdale, near Penrith, say-" The

Mr. Montague Beale says—"It will separate ore, however close he mechanical mixture, in such a way as no other machines can do." Mr. C. Dodswoeth says—"It is the very best for the purpose, and will do for any kind of metallic ores—the very thing so long needed for dress

Drawings, specifications, and estimates will be forwarded on application to GEORGE GREEN, M.E, ABERYSTWITH, SOUTH WALES. SELECTED BY THE ADMIRALTY FOR THEIR WORKS.

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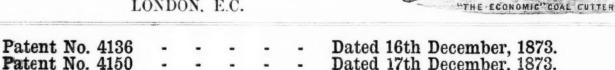
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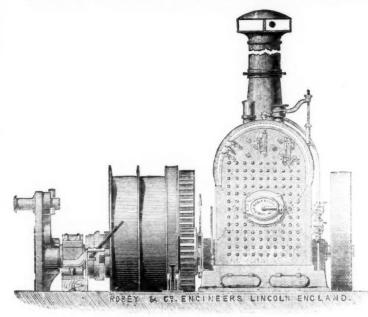
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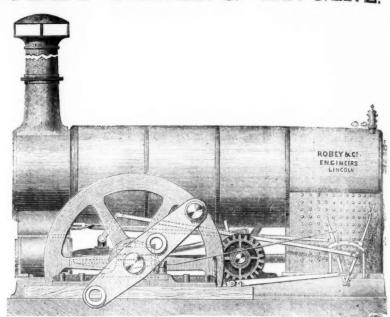
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Small first cost. Saving of time and expense in erecting. Ease, safety, and economy in working. Great saving in fuel.

This New Patent Engine is free from all the objections that can be urged against using the old style of Semi-Portable Engine for permanent work, because it possesses the rigidity and durability of the Horizontal Engine, and at the same time retains the advantages of the emi-Portable, in saving time and expense in fixing.

This New Engine is admirably adapted for driving Flour Mills, Saw Mills, Brick Machines, Pumps, Ore Crushers, Stone Breakers, and all descriptions of the descript

ENGINES UP TO 200 EFFECTIVE HORSE-POWER ALWAYS IN PROGRESS.

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Fifty per cent. of the labour required in Getting Coal.

Particulars on application to-

MARTIN MACDERMOTT, SCOTT'S CHAMBERS, PUDDING LANE, LONDON, E.C.

Original Correspondence.

PACIFIC COAST MINING NOTES.

THE FRYER REDUCTION AND AMALGAMATION PROCESS.

THE FRYER REDUCTION AND AMALGAMATION PROCESS.

SIR,—The Fryer Noble Metal*Mining Company's works, located, as previously stated, at Grass Valley, Nevada County, California, were, for the first time, formally opened to the public on the 4th were, for the first time, formally opened to the public on the 4th instant, when the machinery was set in motion. There was a large attendance present, amongst whom were many prominent miners, capitalists, editors, and correspondents from every quarter of the State, and from distant States and Territories. The working of the machinery was easy and the results quite satisfactory, and the enachinery was easy and the results quite satisfactory, and the enachinery was easy and the results quite satisfactory, and the enachinery was easy and the results quite satisfactory, and the enachinery was easy and the results quite satisfactory, and there assembled visitors. Mr. Fryer, the inventor, and Mr. Hale, President of the Fryer Noble Metal Mining Company, were both the recipients of the heartiest congratulations of those present, and there was but one sentiment uttered, and that was that the new process would inaugurate a revolution in both mining and metallurgical operations that could not fail to benefit the whole country.

present, and there was but one sentiment uttered, and that was that the new process would inaugurate a revolution in both mining and metallurgical operations that could not fail to benefit the whole country.

In my first two letters I but briefly referred to this invention, on account of my imperfect knowledge of its details, &c. But now that this ignorance no longer exists I will try and present to the readers of the Mining Journal a clear and concise description of the whole apparatus, as illustrated by the annexed drawings—figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the expenditure of much figs. 1, 2, and 3—proofs of which, after the process, as developed so far, promises to richly reward the skill and enterprise that have been instrumental in perfecting and producing it. Its chief merits are the expedition, the ease, and the cheapness attending its operations in dealing with either free or refractory ores. These are to be found unlimited quantities of highly sulphuretted ores that are rich in silver and gold. By Mr. Fryer's method of treatment all bases becomes oxides in the furnace, leaving the noble metals in such a condition that very little further trouble is experienced in their extraction, and the unexampled return of 95 per cent, of the ussay value of the most rebellious class of ores that have been treated have invariably rewarded his exertions. These results are very gratifying, and exhibit the best evidence that can be produce

wood suffices for the roasting of a charge of 3 tons of refractory ore. This is spread in one stratum upon the top of the wood, which is ignited when all is in readiness. The wood is quickly reduced to a heap of glowing carbon, which as quickly oxidises the base metals, and leaves the precious ores that remain behind in a pure state. The furnace is provided with a movable invertable bottom, which, acting upon trunnions, facilitates its being turned enough to admit of its contained charge being precipitated into a pit underneath. Air is freely supplied to it while in active operation by means of an opening around said bottom, and the supply can be increased at option by the steam held in the compartment between the shells referred to above.

The cylinders or chambers, wherein pulverisation and amalgama-

The cylinders or chambers, wherein pulverisation and amalgama-tion are effected at the same time and by one and the same opera-tion, are 5 ft. long and 20 in. in diameter. The necessary quantity tion, are 5 ft. long and 20 in. in diameter. The necessary quantity of quicksilver, hot water, and some cheap chemical not yet known to prevent the former from "flouring," are introduced with the ore charge. All being completed, the heads of said chambers are tightly closed, and the process of pulverisation and amalgamation commences. The said cylinders revolve or rotate transverse to the axis at the rate of ten revolutions to the minute. At the expiration of six hours the chambers are opened, and the pulp, now an impalpable powder, and incorporated with the liquid amalgam (liquid because of the unusual amount of quicksilver used) is discharged through a pipe into a separator, where it is met by a poweful stream of water introduced at the bettom of the separator vat, which keeps the pulp in active motion, while the law of gravitation causes the amalgam to descend to a receptacle at the bottom of the aforesaid separator. After resting here for some time the accumulated slimes are allowed to float off at the top. The amalgam is soon thereafter drawn off and retorted, and in less than 12 hours from the period the ore is first placed in the furnace the result in bullion, 960 fine, is obtained.

The technical description that fully are in the furnace in the furnace

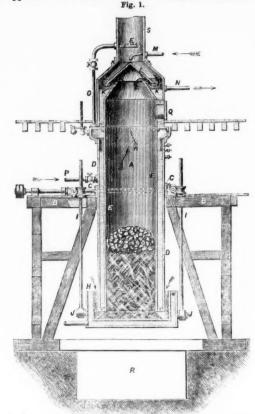
drawn off and retorted, and in less than the ore is first placed in the furnace the result in bullion, 960 fine, is obtained.

The technical description that follows is given in the language of the specifications that have been furnished with application for patent. The invention, as a whole, is fully illustrated in the accompanying drawings, the first of which represents a central vertical section of the furnace. This, A, is of upright cylindrical shape, open at the top and bottom, and suspended on frame, B, by lugs, C; double shell of body, D, E; inner shell, E; steam jet blower, F, located in stack, S, above the furnace. His the bottom of furnace, made in the form of an open vessel of an internal diameter larger than the external diameter of the body of said furnace. Said bottom is suspended from the frame, B, by rods, I, connecting them with trunnions, J, and with apparatus overhead by means of which said bottom can be raised and lowered at pleasure. K is a double-shell chamber at top of body of furnace, through which shell the gaseous and volatile products pass to stack, S, as aforesaid. L is a cam, located as shown over the upper portion of inner shell of chamber, K, upon which is delivered a stream of water through pipe, M. This water comes in contact with the gaseous products of combustion as they pass in the direction indicated by the arrows, and afterwards falls into the space between the inner and outer shells of the chamber. K N is an overwith the gaseous products of combustion as they product too indicated by the arrows, and afterwards falls into the space between the inner and outer shells of the chamber. K N is an overflow pipe by which the water is conducted from the said chamber, K, after it has performed the operation of condensing the volatile metallic and some other products which have been evolved from the furnace, and which are collected in said space. O is a pipe for conducting steam from the space surrounding the body of the furnace to the blower, F. P is a pipe for feeding water to the above-mentioned space.

oned space.

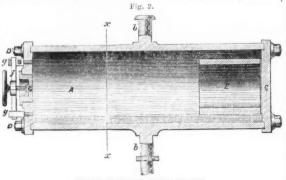
The remaining operations are as follow:—Wood is delivered to the furnace through the door, Q, until the same is filled to about the height shown, when the ore to be treated is introduced in the same

effect of all these operations i, that the sulphur and other volatile matters are mostly expelled, while the base metals are converted into oxides in the furnace, leaving the noble metals in a comparatively free state for amalgamation. As soon as the charge is precipitated into the pit, R, the bottom is again replaced in the position indicated in the drawing, when it is ready to receive another charge for a repetition of the operation, and so on ad infinitum, and is, therefore, as accurate as could be obtained under the circumstances. Now we come to the pulverising and amalgamating department, the apparatus of which the subjoined drawings will illustrate. We



FURNACE USED IN PRELIMINARY STAGES OF THE FRYER PROCESS

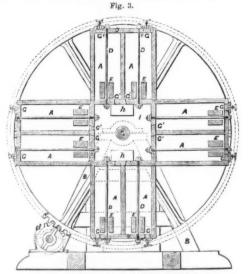
will first describe a single chamber or cylinder in which ore can be pulverised without amalgamation, or be amalgamated after pulver-isation, or, at the same and by one operation, be both pulverised and amalgamated. A single chamber is arranged to rotate, revolve, or oscillate, as shown in Fig. 2, upon or about a horizontal axis, and a weight or ram so placed within the said chamber that by rotation



SINGLE CHAMBERS

revolution, or oscillation of the said chamber the weight or ram will be caused by gravitation to have a reciprocating motion, falling from one end of said chamber to the other end thereof. This weight or ram may operate to produce pulverisation, amalgamation, or both, after the ore has been placed within it, by falling upon the ore at the opposite ends thereof, or by subjecting the ore to attrition between the ram itself and the sides of the chamber.

There may be, if desired, a series of radial chambers placed around transverse axis, as exhibited in Fig. 3, about which they move, and



CRUSHING AND AMALGAMATING CHAMBER

a series of weights or rams arranged to reciprocate by gravitation within said chambers, operating essentially as in the single chamber above described. Such a combination of a series of chambers and their contained weights or rams moving around or about a common axis enlarges the working capacity of the apparatus without inconveniently adding to its bulk, or to the space required for its operations.

COMBINATION CHAMBERS.—There may also be a centrally arranged separate amalgamation chamber, from which radiate a series of pulverising chambers with contained weights or rams, the said height shown, when the ore to be treated is introduced in the same manner, in lumps of any size that will enter said furnace, on the top of the wood, which is then ignited at the bottom. The wood, as incitated elsewhere, is converted into charcoal, after which the whole charge is gradually raised to a high temperature in the presence of alarge flow of air entering the furnace between the body, A, and the bottom, H, as shown by arrows, the influx of said air being urged by the action of the blower when sufficient steam is generated. The

pinion (D D), longitudinal bolts binding together the heads (CCG); door or stopper secured by cottar-bar (f) and stirrups (g g) and rackwheel. S, weight or ram, which, by its own gravity, reciprocates from C to G as the chamber moves. For charges of about 250 bs. of ore A is about 5ft. by 20 in., and revolves about 10, S there weighing about 230.

RADIAL CHAMBERS — Fig. 3. A represents a series of chambers.

Ing about 230.

RADIAL CHAMBERS.—Fig. 3, A, represents a series of chambers each with its containing weight or ram (E). In this plan E slides upon guide bars, D, and is of different shape from Fig. 2. Either or other forms of E can be used, as circumstances require; G doors or openings, as in Fig. 2; C wheel, and d pinion by which power is applied. When it is desired to pulverise and amalgamate separately the chamber, A, may be used for the former, whence the pulp may be admitted through the valves or doors, G G, into the separate amalgamating chamber, I, to which (h h) are discharge doors or valves. When using either form of chamber the ore is introduced through G in pieces of from brick size downwards with a proportionate quantity of warm water, quicksilver, and necessary chemicalfying to in pieces of from brick size downwards with a proportionate quantity of warm water, quicksilver, and necessary chemicals, and then the apparatus is set in motion. The weight or real (E) reduces the ore both by percussion and attrition. When the ore is pulverised and amalgamated it is dumped from the cylinders and passes through a separator which retains the quicksilver and amalgam. The pulp then flows through copper-lined cylinders, as an additional precaution against loss,

San Francisco, May 8.

J. D. Power.

THE RICHMOND MINE, AND ITS MANAGEMENT.

SIR,—Mr. J. D. Power admits that Mr. Probert's honesty is unimpeachable, and so is the sincerity of his purpose. Does it not strike that gentleman that those very rare but necessary qualities render him an objectionable personage, whose presence cannot be tolerated by those who wish to manage the Richmond as other American mines have been managed. Mr. Power brings several objections to Mr. Probert's management, but those who attack should be sure of the correctness of the premises upon which they have their attack. Mr. Probert's management, but those who attack should be sure of the correctness of the premises upon which they base their attack, or they will find all their superstructure fall to the ground. He makes Mr. Probert return to the mine in June, 1875, so as to give Mr. McGee credit for the returns up to that date. It so happens it was the year 1874, and Mr. Probert left in March. 1875. During the six months ending February, 1875, when Mr. Probert had the sole management of the mines, he made a profit of 80,000£, whilst for the six months previously, during Mr. McGee's management, and for the six months after, during Mr. Rickard's management, the profit was about half the amount. The proof of the pudding is in the eating, and this conclusively proves Mr. Probert's successful management. I believe in success, and I have good reason for believing that in future Mr. Probert will, if anything, outshine his previous brilliant management.

An Old Shareholder.

THE EMMA MINING DISTRICT-THE GREAT EMMA VEIN.

SIR,—When I was about publishing the pamphlet on the Emma Mine some of my most intimate friends endeavoured to dissuade me from such a rash act. They firmly believed I should be looked upon as a madman in upholding this mine. I had studied the whole case practically on the spot from 1871 to 1874, and made a speciality of it, as I am fully aware that it would eventually become a cause calculate and possibly my excludence might some day by required. of it, as I am fully aware that it would eventually become a cause celebre, and possibly my evidence might some day be required. I, therefore, put all my zeal into the case. When Mr. G. Anderson, M.P., the then chairman, came out to Salt Lake City, I endeavoured to convince him that unless Mr. Warren Hussey, the local manager, was dismissed there would be before long a crash that would bring ruin on the character of the English promoters. I spoke in very strong terms to Mr. Anderson; but, for certain reasons, Mr. Anderson, unfortunately, looked upon me with suspicion, as acting under some interested motive, so I gave up allidea of convincing the chairman. About this time I commenced my pamphlet, in consequence of having testified in Court, before Chief Justice McKean, "that the Emma vein in the Emma Mine exhibited distinct and marked charman vein in the Emma Mine exhibited distinct and marked charman vein in the man. About this time I commenced my pamphlet, in consequence of having testified in Court, before Chief Justice McKean, "that the Emma vein in the Emma Mine exhibited distinct and mirked characteristics of a well-defined segregated strata vein, and that future developments would prove the Emma vein to be identical with the vein in the Flagstaff and other mines lying on the same mineral belt or strata vein. In the pamphlet, page 30, I gave all the facts proving the Emma vein (I speak here as a whole)—that is, the vein as including all mines on it, the Emma as a master vein as we would speak of the Comstock vein. I am rejoiced at seeing so many facts and proofs brought forward in the Journal, proving practically that the Emma vein (I do not allude to the Emma Mine), which includes the Emma, Flagstaff, South Star, North Star, Vallejo, and Titus Mines, are all on this one monster strata vein. I quote from the City Article in the Mining Journal of Feb. 19, 1876—"That the miners had broken into the South Star and Titus claims, and that this is an important fact as establishing an unbroken connection between the Emma and Flagstaff Mines, whose discoveries are several thousand feet apart." This is what I testified in 1872 in the suit against the Illinois Tunnel Company. I again state that the Emma vein—with its several mines occupying a length of some 16,600 ft., as stated in the pamphlet, page 30—is destined to be a great district, provided English shareholders will stick to their mines, and as stated in the pamphiet, page 30—is destined to be a great district, provided English shareholders will stick to their mines, and not be panic stricken by every little rumour that is set afloat. Let them show, as I state in the pamphlet, as much pluck as American shareholders have shown on the Comstock vein, and they will find it will pay them handsomely in the long run. Kindly publish here, with this letter, what I stated before leaving London, in October last, with reference to the Bay City Tunnel, that my calculation was that only 200 ft. (horizontal) were wanting to intersect the Emme.

with this letter, what I stated before leaving London, in October last, with reference to the Bay City Tunnel, that my calculation was that only 200 ft. (horizontal) were wanting to intersect the Emma vein on the Emma company's property. Mr. Attwood when telegraphed to respecting the rumours that the Howland tunnel had cut into the Emma Mine, stated that the end of the Howland tunnel was some 3000 ft, distant from the deep workings of the Emma Mine. This was correct, but why did he not inform the board in the same telegram that there was another tunnel, called the Bay City tunnel, within 200 ft., then, of the Emma deep workings. In consequence of this evasion I published, and informed the English public for the first time, that this other tunnel—the Bay City tunnel—would cut the Emma vein within four or five months.

Mr. Attwood states that the Bay City Tunnel is 500 ft. from the Emma deepest workings; this is as much to be depended on as everything else he has stated about the "exhausted mine." I imagine his energies in deliberately running down and depreciating the mine is the only thing I find exhausted—panned out. As regards the ore recently discovered in the Bay City Tunnel, producing only \$15—this is another of .he many ridiculous assertions—the deeper the workings have gone in the Emma Mine the richer the ore. I sent you in 1874 some 10 telegrams from Salt Lake, through Mr. W. J. Lavington, which cost me about 1804, giving you the fortnightly sales of the Emma ores. There were sold from the deepest workings some 30 tons, which averaged \$1000 per ton, and several hundred tons, about \$500 per ton. This is the case with all mines or limestone formations all over this continent, which I happen to be practically acquainted with since 1851—that the deeper they go the richer the ores become. I have some very strong data for knowing that the Emma Hill will produce richer ores as depth is attained. I trust the present board will not lose sight of Chief Justice McKean's decision, to be found in the pamphlet, p. 32 I trust the present board will not lose sight of Chief Justice McKean's decision, to be found in the pamphlet, p. 32—"That the patentee or owner of a mine may follow the vein or lode with all its dips, angles, and variations to any depth, and to the entire length of its sets, although it may enter the lands adjoining," Mr. Attwood informed the shareholders at the meeting on Feb. 5 of a fact (fallacy) that would mislead many who are not acquainted with the facts. When asked how far away the ore was found in the Bay City Tunnel, his answer was 500 ft. to the north-west of our lines. The inaccuracy of all these statements, as I remarked in my pamphlet, will come to light now years soon; the department in a therefore.

light now very soon; the denouement is at hand.

Lima, Peru, April 21.

HENRY SEWELI

he asserted, and endeavour to prove its correctness to us. He Pine could only speak, funny things would come to surface. IF White

ECLIPSE MINING COMPANY.

Sir.,—The letter in last week's Journal by "Shareholder" must, I think, have been written by one with unfriendly feelings towards the mine in question, as the directors', &c., report, as well as at meetings, proceedings do not indicate any tendency for the present company to be sold to others. Delay no doubt may ensue in consequence of the limited amount of cash available for opening out so leave an efficie but earthing worse is not shadowed let alone stated. quence of the limited amount of cash available for opening out so large an affair, but anything worse is not shadowed, let alone stated, in any particulars yet to hand; indeed, the interests of Messrs. Eudey and Willet (contingent though they may be to the extent of one-half the nominal capital, or 35,000L) forbid their playing fast and loose with those who have subscribed, be it much or little, in the undertaking under their auspices. However the mineral in large quantities is there; some of the machinery is already at work, more will be a fided as means allow and although it might be wished that will be a ided as means allow, and although it might be wished that the directors, or rather manager, had the free use of a few thousand to carry out active driving and sinking operations, and thus more rapidly develope the property, yet at present the company must be content to carry on the operations on a more limited scale, and allow the time for dividend paying to remain, meanwhile paying the costs out of revenue on sales of rotal or ore, of which there is, no doubt large quantities. There are, no doubt, many jealous outsiders at home and abroad who are eagerly looking for and doing their best to make difficulties for the Eclipse Mine management, but I am disto make difficulties for the Eclipse Mine management, but I am disposed to think that all their efforts to upset the successful, though comparatively limited, operations being at present carried out by Mr. Eudey in the property will be frustrated. The corner is turned, and no doubt in the course of a few months many, if not all, the valuable suggestions alluded to at the meeting will be carried out at the expense of mine production. If so, and there is little reason to doubt it, the small amount of capital for paying on must turn out a gem to those who hold, and make any who have lost their money under previous managements of the company feel anything but satisfied.—May 30.——— ANOTHER SHAREHOLDER.

ROSSA GRANDE GOLD MINING COMPANY.

SIR,—I am aware you do not wish the Journal to become the medium of erroneous statements. Judge my surprise, therefore, at reading in your issues of Feb. 26 and March 4 the remarks respecting the emission of 15,000*l*, in bonds of the above company. Persons connected with mining, and residing in Minas, know whether the gentleman referred to would be the best person to estimate the value of a mine, and, if he did so, what reliance to place upon statements made by him, and more especially if he were pecuniarly interested. I reside as near to Rosan Grande as Mr. Gordon, and know quite as much, and probably somewhat more, about the mine as he does, and I would most strongly advise intending bondholders to have full enquiries made before embarking in them. The 10 per cent. I consider could not be earned if the whole 15,000*l*, was spent at the mine. But the existing debts will have to be met out of the bonds, and I suppose Mr. Gordon has a claim, as he has some ore at the present time at the mine. This may explain his favourable statement, so diametrically opposite to his often-expressed opinion on this mine. and I have no doubt there is a great deal not revealed, which I will enquire into, and write further about. If the shareholders permit the issue of these bonds it will, I believe, be the entire loss of the property, and to the bondholders the loss of their money. There is an agricultural value to the estates of this company which ought in proper hands realise something for the shareholders. Being a shareholder I shall take advice upon the legality of the directors issuing bonds upon a statement so contrary to facts, as the formation will not give anything like an average of 5 oits, to the ton, unless th same means were practised as are resorted to in Morro Velho, bu same means were practised as are resorted to in shorts tende, one in this instance it would not pay. The products of the mine are pretty cabinet specimens, but free gold is very detrimental to the economical working of a mine. The proceedings since Mr. Dale left ought to be thoroughly investigated, and wheever is appointed to take charge ought to see that everything is handed over that was t there by him. Chas. W. WILLIAMS. Serra de Cocaes, Minas Gereas, Brazil, April 19.

ROSSA GRANDE GOLD MINING COMPANY.

SIR,—Since reading the remarks in the Journal of Feb. 26 and March 4 and 11. I have made particular enquiries respecting the average yield of this mine, and am informed that it did not give more than $1\frac{1}{2}$ oit, of gold per ton. This is very different from Mr. Gordon's 5 oits, but I should think much nearer the truth, as with a 5 oits, yield the mine would not have been stopped, and there appears to be little chance of any improvement as to the average produce. I consider the act of emitting bonds under these circumstances a very grave matter, and requiring careful consideration. Being within five or six hours journey of the mine, and knowing several of the people who worked there, I have the best means of getting careful information.

Chas. W. Williams.

Serra de Cocaes, April 27.

MINING IN QUEENSLAND.

Str.,-The great gold-field of the Palmer, in Northern Queensland, has been extended in an unexpected manner. The original prospector and finder of the Palmer gold field was known to have been out, but few had so much faith in him or the country to expect he w

few had so much faith in him or the country to expect he would have been solucky. As it may be interesting to your readers, I send you the following detailed particulars:—

The New Gold Discovery.—We have been favoured by Mr. J. V. Mulligan, who has just returned from what is now called the "New Rush," with full particulars of his journey thither with party, and the result of their joint explorations. Although we necessarily have to condense a considerable portion of the matter, which, although of importance to the party, might be uninteresting to the general reader, sufficient will be seen to establish the fact that nothing but the most indomitable energy, coupled with skilled bushmaship, could possibly have achieved the object they have, and at last come in with the brightest news that has reached Cooktown for many a day. The party, with Mr. Mulligan as its acknowledged head, left Byerstown on Dec 31 last, with the intention of prospecting on the Hodginson river, and on Jouary 2 they arrived on the Eun Creek Rush, above Byerstown, and after a day or two a trial they found it no good; on the 5th the whifted cum, at the head of Eun Creek, on the cap of the range which runs low a mit the M. Lead to the south-east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a little to the east of the same cap, bearing a littl eskoned a dead shot, but fly a Shider messenger at the supposed black brother, bout 89 yards ranget and had it not been for a sapling, and the uncertain it, Alsacian would have lost the number of his mess, and the survivors would live to share in the reward instead of six. On hearing the shot illigan's camp reprised with another, supposing them to be friends, and Warner I Muligan would not see who they were. When they came upon M Lead's papeous them in the tries were only too glad to meet each other, neither party expecting thite man to be in those parts, especially at that assoon of the year. Jan. 27 was appied to prospecting and getting gold. Kennedy and Williams called at them being carrade to join their own party, then distant from Mulligan's about miles. On San. 30 heavy rain set in, which was continuing on Feb. 7, with little-partially of doing anything like continuous work, the creeks being flooded at last the revers. To use our informant's words, he says, "We have found several od-looking reefs, showing gold freely, and which I thoroughly believe to be pay. E. The abuvail ground is payable in places, but very patchy." It appears that see almost intolerable pests - the March files—were most distressing to both man 4 beast, the horses having to stand in the smoke of a fire all day to keep them.

E. It is not the first time we have heard of this plague incidental to new North country, and none but those who have experienced the annoyance can form an a of the missance. On Feb. 18 they left for a fresh camp, and prepared to move a fine was the strick. There is lattle quartz wash in the guides, although the reference seems of the relies to return to, having brought in samples of the different stone from the large and crop up on the surface for some considerable distance. Mr Milligan at about light, Abs have had Mulligan and Mu well as the good-lookin able. The those almo-and beast, free. It is

residered it difficult to obtain specimens, having only a tomahawk and half-axe, the hammer and pick having been lost. A few days afterwards M Leod and Kennedy visited the camp, and brought welcome replenishments of beef, of which the party had run short. On Feb. 20 they went down the west branch, prospecting with varied success, and on the 21st came on to M Leod's camp, the party being engaged in prospecting. Stopping there, they kept getting gold in different places, but all in p debes. There not having been any rain for ten days, and there being every possibility of the Mitchell being low enough to cross, they prepared to start. Unfortunately, at this part of the journey the camp caught fire and burnt every stick belonging to the members of it -clothes and rations—making a regular clear-out, with the exception of a small quantity of flour an a roll of beef; fortunately the papers connected with the expellition were uninjured. They then crossed the Mitchell, the water being very high, and the banks beaving water-marks far higher than had been known before; this happened on March 7, crossed another and a smaller branch, and then onwards to the most northern branch of the St. George, camping at one of the old camping places of the party, at the south end of the upper granite range; thence after a 30-milerange of country, previously described, arrived at Byerstown and tampel close to Mr. Warden Coward's camp. On the 8th and 9th they went over a considerable portion of the country in the neighbourhood of Blackfellow's Creek and the Ten-mile, looking for two mates who remained on the Palmer, whilst the rest went on, but without success. After reporting the discovery of the new field to Mr. Warden Coward, started for Cocktown, where they arrived on Tuesdyl bast. Mr. Mulligan informs us that the party the foundation of the value on the value on the palmer, whilst the rest went on, but without success. After reporting the discovery of the new field to Mr. Warden Coward, started for Cocktown, where they arrived on Tue ndered it difficult to common specimens, having only a tomahawk and half-axe, a hammer and pick having been lost—A few days afterwards M Leod and Ken-dy visited the camp, and brought welcome replenishments of beef, of which the

S) far as season goes the find is most appropriate, as it is just the commencement of the winter season, and for the next five months fe on the Palmer will be enjoyable. The rush, which has already set in with great spirit, will upset the labour market to some extent, but against it we may safely calculate that thousands of miners will be drawn from the other colonies and New Zealand, many of whom be drawn from the other colonies and New Zealand, many of whom will, no doubt, remain in now by far the most prosperous colony of the group. The tin fields will, no doubt, be very much affected by this new find. The news of a further fall in the London market, on March 26, will have the effect of reducing production 40 to 50 per cent. Without the inducement of a newly-discovered rich gold field in the north, for the next six months many of the tin miners will be met with in these golden valleys—a mark for the native cannibal's sport, and all the ills that fiesh is heir to; but so long as they are on the gutter, they are careless and jolly, as diggers only can be.

The Chinamen are flocking in by the thousand, and much trouble and bloodshed is expected ere long, as they are all fully armed and so strong in numbers that they may at any time overstep the line of

and bloodshed is expected ere long, as they are all fully armed and so strong in numbers that they may at any time overstep the line of demarcation that exists between them and the European digger. The rule is that no Chinaman is allowed to take up new ground or work in the same gullies as the Europeans; this has so far been for years the law—they only work in ground abandoned and worked out by the Europeans. So long as they continue in the same line everything will go on smoothly, but so soon as they take liberties or enter new ground they will be hunted off the gold fields, no matter their strength, as they were in Victoria some years ago.

Brisbane, March 30.

RESIDENT.

THE NECESSITY OF AN ASSAY OFFICE.

Sin.—Mining machinery in Cornwall has made rapid advances towards perfection. Contrast our present pumping-engines with those at the close of the 17th century, when we hear Capt. Thomas Savery, in one of his most enthusiastic speeches, say—"I will raise you water 500 or 1000 ft. high, could you find us a way to procure strength enough for such an immense weight as a pillar of water that height; but my engines at 60, 70, or 80 ft. raise a full bore of water with much ease." In 1775 Smeaton obtained his highest duty at Wheal Busy, 9,450,000. The average duty of Watts' engines was 17,000,000, and when 20,000,000 were attained at Hirland Mine this benefactor to mankind declared the engine "perfect." Sim's engine at Wheal Chance realised a duty of 40,000,000; Wolfe's engine in 1816 reached 57,000,000. Capt. Samuel Grose in 1828, at Wheal Towan, augmented this duty to 87,210,000, and West's engine at Fowey Consols is reported to have given the unequalled declared duty of 125,000,000 for 24 hours. Then, again, the implements of the ancients were stone hammers, and even wooden shovels may be seen at the Truro Museum. Modern workers occasionally meet with picks formerly used by the "old men," which are full 3 in. across the "eye" or "setting," and wedge-shaped in appearance. Even in modern times iron borers, with steel bits, heavy, unwieldy, and unshapely iron mallets, with the dangerous "reeds and rushes;" contrast, also, the dressing appliances of to-day with those of any other period, and grant that the ancients could prepare the metal or ore for the market as well, and without a larger percentage of loss. Still, by our method we can heat 50 times the same quantity in the same space of time. Then, again, see the difference between our pumping gear and that at the close of the 18th century, when there was nothing but a series of bucket or drawing lifts, which entailed serious breakages and consequent expenses, but the plunger-lift, the invention of Mrs. Lean, was brought before the mining world at the commencement of -Mining machinery in Cornwall has made rapid advances tocentury, and after several trivial improvements it is now considered perfect. If time would allow us we could trace the various stages through which our simple and complex machinery has been subjected,

and the variousalterations made, but enough already for our purpose. Whilst mining machinery of every class and description has been improved, have we, as miners, improved in a corresponding ratio? To this question, some 11 months ago in the Mining Journal, I gave To this question, some 11 months ago in the Mining Journal, I gave a decidedly negative reply. Everywhere in old men's workings we find indisputable evidences of reasoning, analogy, and the keenest observation, combined with a knowledge of the principles of some of the laws which operate on mineral veins and branches. Mr. Robert Hunt, conscious that something should be done for the miners of Cornwall and Devon, convened a meeting of mine managers and agents at Camborne in 1859, when resolutions were passed relative to the mental capabilities of the miner by such men as the late Capt. Charles Thomas, our invaluable Capt. Joseph Vivian, with others, and that meeting was the origin of the Miners' Association of Cornwall and Devon of to-day. This is an institution which has implanted a that heeting was the origin of the Miners Association of Cornwan and Devon of to-day. This is an institution which has implanted a thirst for knowledge into the minds of many young men—numerous and constantly increasing—and through its agency many owe an advance in their social position. It has done much towards disseminating the radiments of the sciences, especially those which are intended to the connected with the mining of the two counties; it has done a little towards encouraging miners to give the results of their objections and therefore and the properties and therefore and the properties and the properties of the contractions and the properties of their objects the contractions and the properties of the contractions and the properties of their objects and the properties of the contractions and the contractions are contracted to the contraction of the contraction o servations, and thereby many facts and anomalies have been pre-served, which would otherwise lie unrecordel; it has gathered to-gether information about the mineral resources of the two counties which would never have been known were it not for the existence of this ora kindred society. But whilst the Miners' Association has of this ora kindred society. But whilst the Miners' Association has done so much, yet, for lack of funds, it has not benefited the hundreds

of our working miners, and has not been of much commercial service to us as a county—and why? Simply for want of an Assay Office. Many of us in our peregrinations through the mine burrows and deserted heaps frequently meet with minerals quite unlike anything we have hitherto observed; we try our blow-pipes on them, and find that there is a certain mineral, but whether to such an extent as to enable us to discern a profitable margin we know not, neither as to ensure us to discern a profitable margin we know not, neither can we ascertain without paying our \$3.5s., \$2.2s., or 14.1s. for an assay of the same. For instance, we take a powdered substance, and by examining it with a glass it looks like yellow capper ore; we then test it before the blow-pipe, thereby obtaining the characteristic reactions of copper pyrites, and by ac ds there are iron, copper, and sulphur in the substance, but it is impossible for one to tell whether it would be of any compercial heavieth as the iron may be in such at would be of any commercial benefit, as the iron may be in such abundance as to neutralise the copper, and the sulphur may, as in the case of blende, be driven only with very great difficulty. So, after making experiments for days, months, or even years, do you wonder that there is not a certainty in the results, simply because it is not determined what element preponderates in the compound, and are at best, but working in the dark? When we know the exact usualities our experiments will assuredly be characterized by a care quantities our experiments will assuredly be characterised by a cer-tain amount of reasoning, just such as is necessary in working out an arithmetical sum, or a problem in Euclid, and no one would envy thegenius of that person who is trying to do a proportion sum with only one of the terms stated. You would call that person illogical, who would try to deduce an inference without a premise, and think

him irrational if he were to attempt to solve a problem without proposition. Seeing that in mathematics there is a certainty of the results, so there would be a certainty in the benefits accruing to convenience of the seed of the seed

but admire such disinterested men as Lord Robartes and Mr. Baset. Were the matter of an assay office brought to the notice of the gentlemen, with its concomitant advantages, instead of one office being erected we should have two, Lord R bartes taking especial interest in the town of Redruth, and Mr. Basset in Camborne, if the offices were built I feel confident that the mining gentlemen of the towns would readily supply the interior requisites of proper assay offices. Mr. St. Aubyn, of Clowance, would undoubtedly supply the largest in Cornwall) not a few articles.—Gwinear, May 30.

EDWARD SKEWEZ. EDWARD SKEWES.

THE COPPER STANDARDS.

Sir,—I have read with considerable interest your able article upon this subject in last week's Journal, and since the matter has been broached by reliable authorities, I would ask permission to address your readers, more especially bal captains and the representatives of mining properties, upon this all important question, or, perhaps, more correctly, if epigrammentatically speaking, offshoots of the same topic. As you rightly observe, it is "really marvellous the exact correspondence and similarity of the prices offered by our smelters for parcels of ore. Fortunately, this at once farmishes the text for my short dissertation, and without any further prevaible suppose we introduce the lecturer. The very fact of consonance existing individuent which is institution for the purchase of ores, hence parcels give a higher percentaging the master roll is ejected, or only a nominal price offered. The question now arise tow to get at these contents of the properties of the content of the properties of the properti amorestand, or can work out the simple mysteries of our copy doncement, steady, hear me out, pray do not get excited, the remnenced, and is in an uproar already, with actually two scaptains enraged, electrified, and upon their legs, thirsting to ay far more than the lecturer, and have mastered and acquired on be attained pertaining to copper selling and buying. Perhaps, most assure fly those who truthfully confess ignorance will been grievious errors have been are now being made, and if ignorant bleir charge—Otempora, O mores—then they are acqually guilty and wilfful preversity. Only a faw days since the

Annuly close the doors, I observe several individuals sneaking out, whilst tions are mattered "impossible," Barnard's wild calculations, "figures &c; test them yourselves, and in the meantime I will calculate 5 tons: &c; test them yourselves, and in the meantime I will calculate 5 tons: &c; test them yourselves, and in the meantime I will calculate 5 tons: &c; test them yourselves, and in the meantime I will calculate 5 tons: &c; ton of ore, less &c. 15s, ore qual to 71.2 s., 10 per cent. is out 98.1 lss., or 9.15 ton of ore, less &c. 15s, ore qual to 17.2 s., 9.1; multiply this sy 50, result 50 ton of ore, less &c. 15s, ore qual to 18.4 lss., or 30.1 ls. 7d., less &c. 15s, ord the standard of 2 per cent. is worth 6s, 7d., or 80 to 166. 9s. 2d., add this to 556, 17s. 6d., equal to 378.6 s. 8d. Now take rage of 50 tons 10 per cent. and 50 tons 2 per cent. or equal to 18.8 s. 7d., plied by 100 tons, equal to 372.6 s. 8d., against 573.6 s. 8d. Now take rage of 50 tons 10 per cent. and 10 per cent.

Well to take about mixing equal quantities of 2 per cent and 10 per cent., much of the latter as the former were found most of the mines would pay instead of calls.

You seem astonished, my friends, and suppose we make a final calculation of the fact that more poor than rich ore exists, which will further programment beyond the shadow of a doubt. Take for instance that a mine had your cent. ore and 150 tons 1½ per cent. —not at all an unusual occurres standard of 7 per cent. is 194/16s, 34., or 77.7s, per ton, less 21.1's, equal 17.2 lss., 230.4, equal 2471 fbs. The 50 tons 7 per cent. and 150 tons 12, per cent. and 150 tons 12, per cent. per cent. The standard of 27.7 lss., 230.4, equal 2471 fbs. The 50 tons 7 per cent. and 150 tons 12 per cent. and 150 tons 12, per cent. and 150 tons 12, per cent. per cent. and 150 tons 12, per cent. and 150 tons 12, per cent. and 150 tons 12, per cent. and 150 tons 14, per cent. quantities of 24.7 lbs., 120.4, equal 27.7 lbs., 120.4, equal 27.7 lbs., 120.4, equal 27.7 lbs., 120.4, eq

CARDIGANSHIRE MINES, NEW AND OLD-No. VI.

Sin, If we look at the very inexpensive mode of working the nines in this county—the pumping, crushing, drawing, and dressing the ore all being done by water machinery in the mines, of which I shall endeavour to give a few particulars—I think many of your readers, as well as myself, will be at a loss to find out how "lift Times" should now be existing in this district, and that they will begin to think with the writer that "hard times" should now be put a stop to, and that better times and dividends, in the shape of profits about the profes of the day instead of continual calls and profits, should be the order of the day, instead of continu

profits, should be the order of the day, instead of continual calls and losses, as has been the case for some time past.

First, we will go to the westward and take Bronfloyd. Now, if we look at the price of ground for driving, which may be taken on an average at (say) 7l. per fathom, and 3l. 10s. per cubic fathom for stoping (these prices are quite high enough, and I am sure the miners would be satisfied and pleased with them), we shall be a loss to know why ground which, on an average, is valued at from 15l. to 20. per fathom, should not result in some profits to the shareholders. The prices for driving and stoping will hold good also in South Durren, but as the mine is a little deeper we will stretch a point, and say 9l. for dressing and 4l. 10s. for stoping. Now, all the ground taken away for some time, according to reports, will average 20l, per fathom. May I ask why not have a little profit from this. Goginan is opening out some ground that must be taken away as

Goginan is opening out some ground that must be taken away at some considerable profit, and the shareholders should begin to respect from what they have sown. At Powell United such courses of ore are being laid open that cannot fail, under any circumstances, to give a good percentage on the capital invested, and the returns, if

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will be, several ! I have I intend those in not go n give a h out of t rather a but littl the could must ju

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there is any truth in rumour as to the richness of the ore ground, there is any truth in rumour as to the richness of the ore ground, must increase to something respectable. The same remarks would apply to De Broke; and the next time that I write about each of apply to De Broke; and the next time that I write about each of these mines I hope to see my predictions fully realised, and they these mines I hope to see it is possible to judge from the prospects of the will be a far as it is possible to judge from the prospects of the

will be, as far as it is possible to judge from the prospects of the several properties mentioned.

I have been taking the bright side of the question. In my next intend to offer a few remarks on the mines not giving profits, and those in liquidation and standing idle in the market-places. I shall those areas into detail about the prospects of the letter but I will be the prospects of the letter but I will be the prospects of the letter but I will be prospects of the letter but I will be the prospects of the letter but I will be prospected. Intend to offer a few and the standing idle in the market-places. I shall those in liquidation and standing idle in the market-places. I shall those in liquidation and the prospects of the latter, but I will not go now into detail about the prospects of the latter, but I will give a hint to all those interested in them to "look before they leap give a hint to all those interested in them to "look before they leap give a hint to get in again, unless upon such terms as the intended and which might possibly be considered "very comers may dictate, and which might possibly be considered "very lard times;" but the mines are good, and, properly tried, will c. shall times; but little money, and this is known to more than one "Miner" in the county, and who probably asked last week — "When doctors differ who is to decide?" To this I would answer—"The patients must judge for themselves. must judge for themselves.

Goginan, May 31.

IMPROVED PROCESS IN TREATING ORES.

Sig.—Under the above heading I read in last week's Journal a description of Messrs. Oxland and Hocking's Patent Calciner for Roasting Ores. At page 922, vol. ii., of Muspratt's "Chemistry," I Roasting Ores. At page 922, vol. ii., of Muspratt's "Chemistry," I Roasting Ores. At page 922, vol. ii., of Muspratt's "Chemistry," I Roasting Ores. At page 922, vol. ii., of Muspratt's "Chemistry," I Roasting Ores. At page 922, vol. ii., of Muspratt's "Chemistry," I Roasting to the modes of charging and drawing only—fully described and sto the modes of charging and drawing only—fully described and illustrated, which was patented in the year 1853 by Elliot and illustrated, which was patented in the year 1853 by Elliot and illustrated, which was patented in the year 1853 by Elliot and illustrated, which was patented in the year 1853 by Elliot and illustrated, and years now why Messrs. Oxland districts heating various to know why Messrs. Oxland and Hocking claim this furnished as their invention and patent.

Birmingham. May 31.

BIRMINGHAM BLAKELY HALL COAL AND IRONSTONE COMPANY (LIMITED).

COMPANY (LIMITED).

Six.—Being an unfortunate bondholder in the above company, and having been deceived, as I consider myself to have been, by a delasive prospectus, I think it would be advisable to call a meeting of bondholders to consider if counsel's opinion ought not to be taken for obtaining redress. It is stated in the prospectus that the company would at once enter upon the following receipts:—Raise 4000 tons of coal weekly, making a profit of 1600% per week, or an annul profit, reckoning only 40 weeks to the year, of 64,000%, whereas, if I am correctly informed, the colliery never during the time it was working paid its own expenses. The capital of the company was stated to be 220,000%, whereas there was no money at all subscribed besides the 100,000 debentures—a fact if I had been aware of I certainly should not have invested my money in it. If statements like these can be made with impunity for obtaining money from innocent investors the sooner the Limited Liability Act is abolished the these can be made with inputing the cent investors the sooner the Limited Liability Act is abolished the better.—West Bromwich, May 30.

BONDHOLDER.

WEST CHIVERTON MINE.

Six,—In reply to "W. J. T.," I have much pleasure in being able announce that the new lesses have been completed.

Gresham Buildings, May 29. GRANVILLE SHARP.

GROGWINION LEAD MINE.

Sin,—May I ask through the Journal if the present company are continuing to drive their present deep adit cross-cut north; and if so can anyone acquainted with the district tell me what are the proso can anyone acquainted with the district ten me what are the probabilities of finding other profitable lodes to the north. I hear the last discovery of this come runy—the No. 4 lode—has been cut in the 24 m. level, and is worth 2 tons per fathom, and that the same lode will soon be seen in the 95 fm. level. What I want to know is if there is a No. 5 lode yet ahead of this No. 4, as three years ago the there is a No. 4 lode. I want information from those who know the features of this district. London, May 31.

DEPOSITS OF COPPER AT NANTLLE VALE, CARNARVON-SHIRE.

SHIRE.

SIR,—In one of my former letters I said that at Drws-y-Coed Mine, which is situated at the eastern end of the pass, the lode is broken off with cross slides, and suddenly reduced to the level of the valley. In this, as in Symdde Dylluan Mine, the chief deposits of copper are found in connection with the slides, and also where the surrounding rock is lying in a horizontal position. This, like its sister mine, may be divided into two sections, having two distinct converging courses of ore, but they differ in this respect. Here they dip in a contrary direction, but with a difference of angle; there they dip in a contrary direction. In the western section the principal slide has the same dip and bearing as the side of the meantain where the in a contrary direction. In the western section the principal slide has the same dip and bearing as the side of the mountain where the lode has been cat off—that is, the horizontal angle about 45° west of north, and the vertical angle about 30°. It does not appear to carry along the copper from one lode to another as the principal slide does at Symdde Dylluan, but the lodes almost invariably produce copper where it strikes across them, especially where the lode is of a soft nature. Sometimes it makes deposits from 5 fms. to 10 fms. high, and from 3 fms. to 4 fms. wide. It is remarkable that these deposits make upon the slide, and scarcely ever under it. This section has been worked on this slide from the top of the mountain, or nearly so, down to the 80 fm. level—a distance of nearly 200 fms.—and, with few exceptions, with profitable results. The last 20 fms. sinking on the south lode yielded many thousand pounds worth of ore, and although now pinched a little at the 80 there can worth of ore, and although now pinched a little at the 80 there can be no doubt that it will open out again, as it always has done after such a change

At the eastern section of the mine, in the shallower levels the ore has been deposited chiefly where the strata are lying in a horizontal position, the copper extending away from the lode between the beds of clay-slate for a great distance. One of these in particular occurred about the 20 fm. level, the history of which is rather interesting. About a century ago the parties who then worked the mine sunk a winze several fathoms in hopes of finding one of these carbonas, but as they had nothing but hard country rock it was abandoned, and that part of the mine closed up. Many years after the water was again drawn out, and this winze resumed; when 18 in, from the bottom they struck on a large bed of solid ore, producing from 18 to 20 per cent, of fine copper. At the deeper levels, where the strata are less contorted, the ore keeps more regularly with the lode, being thrown in an easterly direction, dipping about 60°.

These converging courses of ore will form a junction about 20 fms, below the present bottom of the mine, and, should it be worked to that depth, I have no doubt that there will be found a magnificent course of ore.

Ventle Man Andrew Man and State Course of ore. At the eastern section of the mine, in the shallower levels the ore

JOHN ROBERTS. ntlle Vale, North Wales, May 27.

"CIRCULAR" MINING.

Sir,-I am but a poor country parson, who happens to hold a few shares in in some four or five good mines. Though a reader of the Journal for many years it is but lately that I have made any underground ventures; and since I commenced some few months ago to take a passive interest in mining I have found that I am on all sides surrounded with friends (?) who are urging their "good" things take a passive interest in mining I have found that I am on all sides surrounded with friends (?) who are urging their "good" things upon me. In two or three months I have received circulars from four or five different dealers setting forth the claims of various promising undertakings. With regard to one of them no less than three of the circulars, containing a plan of the district, showing that the Van lode must communicate with it, further stating shares must rise, property most valuable, that I should never have such a chance again, and the writers almost going on their kness begging me to take shares; and, not only this, they also enclosed a form to fill up, leaving me to state the number of shares I should require. How very kind—how very disinterested! Were I in the position of these

dealers I do not think I should be so liberal with my advice. new I had a "good" thing in store, and could not afford to sub-cribe to it, I should without any hesitation hand it over to my re-

lations, and allow them to reap the benefit of my knowledge, and not put myself to the expense of sending out circulars by post.

I fear these dealers will think me very ungrateful in not replying to them. The only thanks they get is from Mary, my maid-ofall-work, who clears my waste-paper basket every morning COUNTRY PARSON

THE PENNERLEY MINE, AND ITS DETRACTORS

SIR,—I notice a letter signed "Enquirer" in last week's Journal oncerning this property, and his indignation at brokers' circulars, somerning this property, and his indignation at brokers' circulars, &c. He seems to take it as a personal affront that Pennerley Mine is spoken well of. I do not think, on a second perusal of his epistolary production, that he is a "bear" of these shares. This would be a too dangerous experiment altogether; but I am thinking that he is a buyer at depreciated prices, if he can only manage to work the oracle in his favour. His statement that the mine is only returning 54 tons of ore per month will soon be changed into double that amount, and should the ore in Potter's Pit be struck, as anticipated and expected from the locality (the first in Shropshire), and from the great heat found below indicating a vast body of ore at hand, the mine at once becomes a second Tankerville. If your correspondent would take the trouble to go to the mine he will find that the tributers lately put on have returned just 60 tons of ore in about a fortnight, and this is quite independent of the regular amount of ore. More tributer, will it once be put to work, and with the great discoveries hourly anticipated Pennerley will be the great speculation of the coming summer. Capts. Harris and Delbridge in their report of May 17 state: "That the wince and stops west of cross-cut in the 75 maintain their value—3 tons of lead ore per fathom, and that the lode is very speedy, and from the excessive heat below that a large body of ore must be at hand, and closely, too." On May 23, by last report:—Engine Shaft: In the level here, 120 cast, a winze is commenced on the course of ore already found, and the lode is 2 ft. wide, and worth 5 tons per fm.; looking well for improvement. Stope in back also valued at 2½ tons. Great expectations are formed of a vast find in the 86 from undoubted indications, and from discoveries below. In Potter's Pit the 90 is in hourly hopes of a rich course of ore. The lode in the winze and stope west of recoss cut is worth 400, per fathom, and likely by most encouraging indications to increase. The stope in back is over He seems to take it as a personal affront that Pennerley Mine

PENSTRUTHAL MINE.

PENSTRUTHAL MINE.

SIR,—A mine situated in such a position as this property, in the heart of the Redruth district, and between two such mines as Buller and Tresavean (and a rather dry mine in addition), deserves much notice. Those well acquainted with the district expect such a discovery as that which is now coming off—that copper is appearing in every part of the mine. Penstruthal can again blow the trumpets, writers and jobbers may again host its praises and extol its fame. No doubt a rich course of copper lies at the bottom of the shaft from such a locality; and if so, we may expect to see Penstruthal take the position intended originally by the promoters, whose judgment was excellent. Patience has been tried sorely by holders of these shares, but expectations will all be realised shortly. We may anticipate the value of the lode in Highburrow shaft will ers long be declared when cut. Capt. Tengue's opinion of this mine has always been very high, and the enormous profits mide in it some years since in a preallel tole, when upwards of \$4,000. was netted in profits, confirms this hope most strongly.

Converted.

THE WILD DUCK, OR SPORTSMAN'S ARMS, MEETING.

According to agreement, the "old pare" met, and had a fine bason of broth, well stuffed with cabbage and turnips; ample justice was done to a splendid leg of mutton, and when all had finished Jan Temby said, "I tell ee what, sose, people may say what they mind to, but I say there's so good fellowship in eating as in drinking; and there's no more harm in having a good dimer once a month after working all that time as hard as men can work in wet, caudly, old places, and risking our lives in runmaging old pitches—that dandy young miners would be afeared to smell to—than going to mitten or preachen, for we don't get drunk or mased, or interfere with any-body, and if we wish to discose the point between ourselves it is nothin to nobody else." "Thee art right, Jan," says Jemmy Down, "but while the maid is clearing away the things, shall I tell ee trick Jim Bray served Nicky Oppy last week?" Oh, iss," says all the pare, "less av'n, Jemmy." "Well, you all know both men."says Jemmy. "It was sist-day at Wheal B——r; Jim Bray met Nicky Oppy, and said, 'Were't a going, Nicky?' 'Going,' says Nicky, 'why, for sist, to be sure.' 'And how much sist dost a git?' says Jim. 'A pound,' says Nicky. 'A pound,' says Jim; is that all?' 'Iss,' says Nicky. 'how much dost thee git?' Why, I al-ways git two pound, 'said Jim. 'And how dost thee git two pound, and other men only one pound?' says Nicky. 'Well,' says Jim, I don't mind telling thee the secret. I swear and cuss pon the capns and clerks, and I very soon git my two pound; and thee's goes in the count-house and do the same, and thee's be sure to have it.' 'Oh,' says Nicky, 'if that's the way I'll soon try um'. In went Nicky, and very soon a pound was handed to un. 'What's this?' says Nicky, 'Your subsist.' says the clerk. Says Nicky with a great 'It the sail'?' 'Why I do you mean?' says the clerk. 'Mean,' According to agreement, the "old pare" met, and had a fine bason of 'Oh, 'says Nicky,' if that's the way I'll soon try un.' In went Nicky, and very soon a pound was handed to un. 'What's this?' says Nicky. 'Your subsist.' says the clerk. Says Nicky with a great oath, 'Is that all?' 'What do you mean?' says the clerk. 'Mean,' says Nicky, with another great oath, "that I'll have two pound sist like other people,' and Nicky kept on swearing, and cussing, and kicking up such a row that the manager come out, and said 'What's all this?' Nicky begun to swear again. 'Spale the fellow a guinea,' says the manager, 'and if I hear any more noise discharge him at once from the mine.' This only made Nicky swear more than ever, but before he know'd where a was he was turned clean out of the mine. but before he know'd where a was he was turned clean out of the mine. When Nicky come out of the count-house that sly rogue Jim was waiting for'n round the corner, and so soon as a see'd Nicky a made up a long face, and said, 'Well, how des't a git on, ole fellow; thee's got thy two pound, desn't a?' 'Odd, darn thee, Jim,' says 'Nicky, "why, I'm spaled a guinen, and turn'd out of the bal; and what am I going to do now; dost a know? 'Thee's told me thee's got two pound by swearing and cussing pon the capns and clerks.' 'Sɔ I did,' says Jim, 'but I didn't swear out hard pon them; 'twas only in my mind like." "Well," says Uncle Henry Treylon, "that beat all I ever heard, and how ded poor Nicky git on afterwards?" "Why after a week or so," says Jemmy, "it was told to the manager how poor Nicky had been fooled by Jim Bray, and all the capns and clerks jest scat their sides loffen, and took off the spale, and put un to work again." The pare being now comfortably settled for a to work again." The pare being now comfortably settled for a smoke and chat. Cousin Will said "I have been thinking since we last met what a vastunexplored mineral field there is in the parishes of Illogan, Camborne, Wendron, Crowan, Gwinear, &c. It is quite true a few good mines have been found in each of the above parishes, but they are nothing when compared with what remains undiscovered, and the question is, though we know the general run or direction of the great lodes of the districts, how is it that new mines, and good mines, are not now discovered as well as in former times? Our forefathers made enormous fortunes in our mines without the pretence of a tithe of the scientific knowledge of the present and with the rulest kinds of machinery and appliances. They not only discovered the mines, but worked them profitably. I ask again the worked them profitably. I ask again and good mines discovered now? Has a 'new college. mine, in every sense of the word, been discovered and successfully worked within the last 100 years? If not, and I think not, then with all our boasted scientific knowledge, and wonderful discoveries and inventions, it is clear that we are not so able miners as our fore thers. Some may sneer at the idea of lodes being first discovered 'dowsing.' Well, if they were not, perhaps learned friends will I us how they were discovered. We don't care a straw; only let tell us how they were discovered. We don't care a straw; only let new lodes and new good mines be laid open, for I would rather have the cream of one good new mine than all the old mines, or most of them, put together. It was the cream of 'new mines' discovered by our forefathers that enabled them to make large fortunes, and it will be the cream of 'new mines' that will make the fortunes of the discoverers of the present day, which is far better than losing shiploads of money in deep exhausted old mines, but, if not exhausted,

too expensive to work to pay any profit worth talking about."
"Now that," said Jan Jewell, "is what I caal sound discoose. In the different parishes there is bals enuff to put 10,000 men and boys to work, but the buffle-head fools would rather throw away millions in Furrin parts than spend a shillen in new bals at home, when they could make fortins like the old people used to, and hundreds and thousands of our best men obliged to suffer misery in Furrin countries. Why I tell ee, sose, no Furriners can come up to we, or match our new bals if we work them fitty. Now, jest see how many new good bals you could find in 'High Downs,' near Hangman Burrow, Bolenowe Carn, the top of Chycarne Moor, where I have seen with my own eyes great rocks up to grass with grains of tin in un so big is sparables. Then there is Craft Mitchel, Boswidden, Halligan, and all the ground running down to Crenver and Wheal Abraham; and this, comrades, as you all know is new, whole ground, full of lodes and good bals. People may laff about dowsing if the mind to; we are sure the great maister lodes run through they places, but if they aren't cut by dowsing why let them be cut some other way; we wan't faal out with any man, woman, or cheel for finding a good bal, but I say tes a burning shame for our miners to be drove out of the county to the end of the world to get a crust of bread while we have scores of miles of lodes never yet touched." "Iss, sure," says Jemmy Down, "and how many scores and hundreds of little bals is in all directions—worked a little—and if worked fitty with care would soon be big rich bals. Why the people must be wust than mazed to throw away their money abroad, and going about day after day stanken pon cooses of copper and tin." "I consider," say Jan Temby, "that the be wuss than Neddy M—l, and he drove a cross-cut to put the deads in from another end." "I think," says Cousin Will, "as we are about to part, men, that no man can find fault with our proceedings since we met, and at our next meeting I hope we may all have man can man aut with our proceedings since we met, and at our next meeting I hope we may all have something to say to each other which will be mutually beneficial."—Cousin Jack's Unpublished MS.

ROADS, STREETS, AND PAVEMENTS.

Few things, probably, are more conducive to the successful openrew things, probably, are more conductve to the successful opening up of a new country than the judicious laying out and proper construction of roads, and as it is not at all times possible to procure the services of an intelligent road engineer, such works as that of Major-General Gillmore* are almost invaluable. He has been careful to give such descriptions of the various methods of locating country roads and of constructing the road and street coverings in more or less common upon at the present day so will read on the construction. more or less common use at the present day as will render the essential details of those methods, as well as certain improvements thereon of which many of them are believed to be susceptible, familiar to any intelligent non-professional reader. He also makes

thereon of which many of them are believed to be susceptible, familiar to any intelligent non-professional reader. He also makes some useful suggestions with respect to the selection and application of materials in order to develope their greatest practical worth and realise their greatest endurance, and further compares the respective merits of the several street pavements now competing for popular recognition and favour with the warying conditions of traffic, climate, and locality to which they are commonly subjected. The location and grades of country roads is first dealt with, care being taken to explain the elementary principles to be kept in view, ameroid barometers and their uses, methods of selecting the line, how to estimate questions of expediency, grades, statical resistances on grades, &c. Next, the earthwork, drainage, and transverse form of country roads are considered, methods of protecting embankment slopes, making hill side roads, roads over marshes, culverts, catchwaters, &c. In the succeeding chaper the advantages and defects of the several kinds of roads—earth, corduroy, plank, gravel, meadam, telford, and other—are pointed out, and there are chapters on the maintenance and repairs of roads, streets, and street pavements, side-walks, and footpaths, and tramways and street railways. In referring to rubble-stone foundations to be used withous tel ord pavements, he recommends 7 to 8 is. of rubble for a road 12 in. thick, which cannot be objected to, but he goes on to say that the foundation should be constructed with great care, the large stones being laid down first, side by side, flatwise upon the road bed, and firmly set to their places with rammers. The intersices are then filled in, and levelled up with smaller stones, care being taken by selecting the pieces to get them to it as closely together as possible, and thereby to mutually sustain each other in place.

The object is to use as much material in a given thickness as possible, so as to reduce the volume of voids to a minimum. Now, th

scertained and readily utilised.

THE LAW OF MINES, MINERALS, AND QUARRIES.

Reference was made in the Journal of May 13 to this subject, but as there is no undertaking in this great commercial country more deeply affected by its laws than that of mining it may be well again to notice Mr. Rogers's volume. To have the law clearly laid down is, in many cases and under some circumstances, almost an impossi-bility; and even to have the law as it is already pronounced by the Courts set before us in a clear and intelligible form is by no means bility; and even to have the law as it is already prenounced by the Courts set before us in a clear and intelligible form is by no means a very easy task. In truth the law of mining is a very difficult subject to deal with, and requires very careful study and deep research; it is, therefore, a great advantage that there is one gentleman, and but few others are now living, who has devoted himself for veries to legal questions of this description. In 1864 Mr. Arundel Rogers first published a work upon the subject, which at the time was pronounced to be most valuable, well arranged, and full of legal information upon every subject which related to mining. The general principles of law relating to real and personal property rights in mines, mineral, and quarries, were then clearly set forth. Civil and criminal rights were treated of; the coal trade and the laws affecting it were not overlooked, and forms of deeds, mining licenses, and leases, with especial references to forms of covenants, provisions, conditions, reservations, and such like matters, were given for the guidance of those concerned. But the author did not confine this edition of the work to the laws of Great Britain and Ireland, he gave in addition many laws of foreign countries, which served as a guide to obtaining grants to work foreign mines, and afforded valuable information of the position of the English miners it foreign countries, which served as a guide to obtaining grants to work foreign mines, and afforded valuable information of the position of the English miners it foreign countries, which served as a guide to obtaining grants to work foreign mines, and afforded valuable information of the position of the English miners it foreign countries, which so the law up to the present time. Easements and servitudes, the right of support to adjoining properties, the law of streams and water courses, both natural and artificial, which so deeply affect mining operations are seientificially and practically treated; the regulation and practice of the ve

iw and practice of the Stamaries in reference to seem.

An important addition to the present edition also consists in the observations repecting the alterations likely to accrue under the Judio ture Acts. Formerly questions relating to miring were treated either in a legal or equitable form, and most of the previous decisions were pronounced by courts of law or equity, as the case night be, not upon the actual merits of the whole case, but upon some particular soint only, and the consequence was that a dry and harsh construction of the law sagiven, but now, under the Judicature Acts, as Mr. Rogers observes, there will be a fuller consideration of every case submitted to the Supreme Court; and the consequence and the submarked part the submarked probably influence future deci-

be a fuller consideration of every case submitted to the Supreme Court; and the author points out the ruling principles which will probably influence future decisions, and the necessity there now is of not placing too much reliance upon previous decisions of the Courts, without a consideration of the whole of the facts upon which such decisions were based.

By way of introducing the volume, Mr. Rogers states that the first edition was published in 1864, and another edition has long since been required, but has been unavoidably postponed until the present time. During the 12 years which have since elspeed the Lwof mining has undergone considerable alterations, and this has necessit sted an increase of the volume from 118 to 800 pages. The portion of the work relating to mines and minerals in foreign countries has been revised in most instances by residents in the districts more particularly referred to. An entirely new chapter on the United States of America has been added, compiled by the author chiefly from original sources, there being at this moment no connected work upon the subject published in the States; each State makes its own laws, subject only to Federal supervision and control upon Imperial questions, and this has

* "A Practical Treatise on Reads, Streets, and Pavements." By Q. A. GILLMOBE, A.M., Lieut. Colonel U.S. Corps of Engineers, Brevet Major-General U.S. Army. London: Trither and Co., Ludgate Hill.

† "The Law Relating to Mines, Minerals, and Quarries in Great Britain and Ireland: including Rights of the Crown, the Duchy of Cornwall, and Local Liws and Customs: with a Summary of the Laws of Foreign States, and Practical Directions for obtaining Government Granisto Work Foreign Mines." By ARUNDEL ROGESS, Esq. of the Inner Temple, Barrister-at Law. Second edition. London: Stevens and Sons, Chancery-lane.

made it extremely difficult to collect and summarise those laws within limits consistent with the general character of the work.

The main subject of the volume—the Law Relating to Mines, Minerals, and Quarries in Great Britain and Ireland, has been brought down to the most recent period, and the author is happy in believing that no great changes will occur for some time to render any important alterations either expedient or necessary. The chief additions and alterations in this portion of the work will be found in chapter VIII., which relates to the interpretation of mining terms; in chapter XII., on the protection which railway and other public companies are required to give to the swners of minerals adjoining the lands taken by the company; in chapter XVII., respecting the ancient customs of Cornwall and Devon, and the jurisdiction, practice, and procedure of the Stannary Courts, which have been amended within the last few weeks (March, 1576); the Law of Easements and Servitudes, in chapters XXIV. and XXV., including support to lands, buildings, and public works; the rating of all mines (Chapter XXVI), which till the year 1874 applied to coal mines only; Government Regulation and Inspection of Mines (chapter XXIX.), which have been considerably amended by statutes passed in the years 1872 and 1875; the Amendment of the Law of Masters and Workmen (chapter XXXX.) in the year 1875, by which offences herefolore criminal are made the subject of civil proceedings only. And, lastly, by a timely delay, the author has been enabled to point out the principles which may guide the judges of the Supreme Court when adjudicating upon questions of a like nature which had had previously been the subject of lituation in the courts of law and equity, when presided over by judges possessing only an imperfect and limited jurisdiction.

Meetings of Bublic Companies.

THE SKERNE IRONWORKS.

The fourth yearly general meeting of shareholders was held on Thursday, at the City Terminus Hotel,

Mr. J. S. C. SUTHERLAND (the secretary) read the notice calling

Lieut.-Col. F. D. GREY in the chair.

Mr. J. S. C. SUTHERLAND (the secretary) read the notice calling the meeting.

The report of the directors stated that the operations of the company during the past year have been, despite the universal depression in the iron as in every other trade, on much the same scale as in the year preceding—2.09 tons of plates, &c., baving been made during 1878-6, as against 24,930 tons during 1874-5. But the pecuniary result, consequent on low prices, has been less satisfactory, for while the net profit for the year 1874-5 was 11,856, that for the past year is 51671. This profit, however, enables not only to wipe out last year's deficit, but to carry the customary 2000 to reserve, and still to show a small credit balance. That this credit balance is of too small an amount to make a dividend practicable is, of course, much to be regretted; but, on whole, the shareholders have reason to be satisfied with the state of the company, as shown by the accounts, and might fairly be congratulated apon it, if only the prospects of the trade were less discouraging: 6541f. have been spent in necessary extensions: an expenditure quite distunct, of course, from that incurred in maintaining the existing works in the highest state of efficiency. The nucleus of an angle mill has also been formed, and, should circumstances permit, it may be expected to be at work in four or five months. It is only in this way the directors can hope, in these times of excessive competition, to hold their own, and they are confident that any marke i improvement in the trade will demonstrate yet more fully the soundness of their policy. Convinced, indeed, of the advisability, if not necessity, of further developing and extending the iron manufacturing branch of the company's business, the directors have been led to contemplate the suitability of reliaquishing the bridge-building branch altogether, and of using the working capital hitherto therein employed in extending the rolling mills. The directors, though satisfied tha

The CHAIRMAN, in moving the adoption of the report and accounts. and he would take them back to the period when he last addressed them, not with the view of going into the accounts which were sub-mitted at that meeting, and which were regarded by the shareholders as satisfactory, but rather with the view of calling the attention of the shareholders as to what was the position of affairs at that time. The shareholders would remember that at the meeting they feared the depression which had existed for a considerable time in the irred-ards might will continue and at the amount investor had referred.

The shareholders would remember that at the meeting they feared the depression which had existed for a considerable time in the ir.n. trade might still continue, and at the same time they hoped it might not be intensified, or at any rate that they might be able, under any circumstance, by a continuance of strict economy to place before the shareholders a favourable balance sheet at the present time. That the fears then expressed had been unfortunately realised be thought everyone of them knew. They were all aware of the condition not only of the iron trade, but all rades throughout the condary, and he was sorry to say there was -at present, at any rate—no prospect of an improvement, Of course, they knew it would improve some day, judging from past experience, but how soon it would be he could not tell. In a recent number of a circular well known in the iron trade there was an article on this point which, although perhaps a little more gloomy than many people imagined, yet he would read.

The extract was then read by the CHAIRMAN. It was to the effect that the bitter depression which had so long characterised the iron trade showed no signs of abatement, but every week deepened the despondency. For 25 years there had been no parallel to the present uniprtunate state of affairs; falling prices had brought no increase of orders, and in France, Belgium, and Germany works were being gradually closed, as the great majority of works were losing money.

The CHAIRMAN said that was all he had to remark with regard to the fears which were expressed at the last meeting. As regarded their hopes, he was bound to say they had been realised to a limited extent—that was to say, the company had made no losses, whilst the state of the property had been improved. The accounts also showed a profit of over 50001, on the working of the companies, but with other companies generally. He went on to say with all other companies, but with other companies generally. He would not say with all other company for the year, of which had been imp ont; and the future, as he had already intimated, did not look it was impossible to predict what it would be. He would not at this experience of the prophecies of chairmen was not very sait was to say, if a prophecy turned out all right shareholders were anyone could have fore-seen that, "whitstif, on the contrary, the out wrong, the shareholders were apt to blame the chairm in take him responsible. Therefore he should have the chairm in take him responsible. satisfa

in the prospectus, and complained that the expenses of the London and local offices had been heavy, and said he was anxious to see the London offices abolished. If they could economise and save expense there would be a chance of some dividend in the future.

Mr. Bentyck said it was desirable the Chairman should give the shareholders some ground for his statement that in the property the shareholders had value for their money. If the concern were broken up to morrow, what prospect would there be of realising the assets in full?

The CHAIRMAN said he would answer the last question first. He had stated they had their value there, but of course they could not realise it in day. If the works were put up for sale to day probably they would not get a bid, and therefore in that light they were worth nothing as for to-day, and the same remark applied to the best works in the country. If they wanted to know what he meant by the value, he meant that the value of the works was according to their ca-abilities: they could turn out something like 30,000 tons of plates, and if they capitalised the money they received on that they would find the value of the works. Therefore the works were of more value th in when the company bought them. In the prospectus the calculation was made on the basis of 25s. per ton, and if orders were obtained which would bring in that amount they would be able to get more for the works to-day. As regarded the directors' meetings, the directors met monthly as a rule, but as a matter of fact they frequently met two or three times a month, and sometimes two or three times a week. In compliance with the desire of some of the shareholders the directors had met two or three times a tharlington. As regarded the orders received through the board, the function of a board of directors was rather to supervise the management than to look for orders; they had an able and energetic agent in London—Mr. Forsyth—who was in constant communication with the board. As regarded the holdings of each individual director, h

for. He believed that Mr. Frank would are consciousness.

Mr. J. H. LLOYD, in reply to an observation, pointed ont that the output was greater now than when the works were taken over, so that the failure of a dividend was not due to any want of good management, but arose entirely from circumstances over which the directors could have no control.

After some further discussion, the resolution for the adoption of the report and accounts was put and carried.

On the motion of the CHAIRMAN, seconded by Mr. BENTINCK, Mr. J. H. Lloyd was re-elected a director.

elected a director.

he motion of General Woodhouse, seconded by Mr. Gordon, the anditors

rere re-elected. The meeting was then made special; and, on the motion of the CHAIRMAN, se-onded by Mr. Mackelll, a resolution was passed authorising the directors to sell the Bridge Work branch of the company's business. It was explained that at resent this branch of the business is prejudicial rather than beneficial to the company; and, therefore, it is proposed to sell the good will and business to a new company, to which the shareholders of the Skerne Iron works will be asked to subscribe the first instance. The arrangements carried out considerable from works, and it is believed that if the arrangement is carried out considerable future benefit will accrue to the shareholders.—The meeting then broke up.

ROMAN GRAVELS MINING COMPANY.

An ordinary general meeting of shareholders was held at the offices, St. Helen's-place, on Tuesday,
Mr. T. SOUTHGATE in the chair.

Mr. F. F. Wilson (the secretary) read the notice convening the

Mr. F. F. WILSON (the secretary) read the notice convening the ceting.

The report of the directors stated that in the year 2344 tons of lead ore have en sold, realising 35,145%, an average of 14°, 19×, 10d, per ton, and 30 tons of ende, at 36°, sep ton, or 99°; together 35,244%. This, added to 38°, 80%, brought om last account, makes a total of 38,55%. Of this amount there has been exhaded upon labour, materials, and management 15,96°%, and for royalty, 28°%, using the year rhree dividends have been pril, amounting (with income tax) to 42°%; and a further sum of 160°%, has been transferred to meet the expenditure on permanent works, leaving a balance of 29°% to be carried forward to next count. The works have been prosecuted with the utmost vigour throughout the ser. A powerful engine has lately been purchased for the new shaft.

The report of the agent (Capt. A. Waters) stated that reading from abstracts ade from the cost-book showing amounts paid for labour, and account of sales of e from January, 1971, to March, 1976, the following results are shown:—Sinking afts and winzes, 349° fms.; driving levels and cross cuts, 321° fms 37°. It 11 in:. ound stoped, 3137 fms 2 ft. 2 in:. total, 430°s fms. 0 ft. 1 in. The sales of ore for e same period are:—Lead ore, 10,86° tons 5 cwts.—blende, 350° tons. The 96° tons 5 cwts.—blende, 350° tons. The 96° tons 5 cwts.—beinde, 350° tons. The 96° tons 1 cwts. per fathom on all the ground taken away in the mine, inclusive of 0 fms. removed as dead ground in sinking shafts, driving of cross-cuts, and sink general states and the state of the lode, and adding the 350° tons of blende to the above, a average money value throughout will be nearly 40°, per fathom.

Did Engine Shaft: This shaft is perpendicular to the 95°, at which depth it is fms. away from to the west of; the Roman lode, and, therefore, not available for edirect deepening of the mine. But for this drawback we should have been own to at least the 10°, with levels between it and the 95° opened for stopping, &c., this

In it, was also a detailor. What was over-trading? What it really meant was this—a demand spring up, and the supply was not equal to it, and consequently and consequently and properly and the respect to explicit the work, and be able to send the mand greater efforts were made by producers, and fresh industries were opened to supply the defect of the supply of the consecution of the supply of the supply of the consecution of the supply of the supply of the consecution of the supply of the supply of the consecution of the supply of the supply of the consecution of the supply of the consecution of the supply of the supp

comment. He might mention that they had entered into an agreement with a neighbouring company to straighten the River Skerne, which ran at the foot of did not think this company had made a bar bargain. He moved the adoption of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and before sitting down mentioned that the question of the report and accounts, and therefore the adoption of the report did not affect that in Mr. J. H. LLOTS exconded the resolution.

Mr. Journ H. Aszerwoon (Sweffeld) said he had a few questions to ak.

He should like to know how many directors' meetings had been held? He should also like to know how many directors' meetings had been held? He should also like to know whether the development of the purchase price of the works? He had head that Messrs. Pease, Hutchinson, and Co. had the works to dispose of, and that some gentlemen from London went down, and offered to give the money on conditition that that firm good as any works in the North cheen men and the statement of the purchase price of the works? He had head that Messrs. Pease Hutchinson, and Co. had the works to dispose of, and that some gentlemen from London went down, and offered to give the money on conditition that that firm good as any works in the North Cheen men and the statement of the money that the statement of the purchase property to the company? He referred to some of the statement of the purchase property in the company of the down of th

which would be personal to proposition.

The motion was put and carried unanimously.

Mr. R. Wilson proposed Mr. Southgate as director. ——Capt. Waters seconded the proposition, which was put and carried.

Capt. Waters, in reply to questions, explained the value and prospects of the different points of operation. He believed that above the 3s there was yet a different points of operation. He believed that above the 3s there was yet a factor was a second of the different points of operation. He believed that above the 3s there was yet at the different points of operation. He believed that above the 3s there was yet at the different points of operation. He believed that above the 3s there was yet at the second to the second of the second that he was the second of the point reside in the 60, and by what a course of ore they had gone through in that he self-them to 48 years from Jan. 1, 1876.

A Sharkholler asked if those terms were similar to the old lease?—The Secretary: The terms under the old lease were 1.12th on the first 1000 toss and then 1.14th.

Capt. Waters reminded that when the old lease was granted lead ore was only 11/1. 10s. per ton

A SHARRHOLDER asked if those terms were similar to the old least—The terms under the old lease were 1-12th on the first 1000 ton and the 1-14th.

Capt. WATERS reminded that when the old lease was granted lead ore was only 11. 108. per ton 11. 1

THE NEW APPLETREWICK COMPANY.

The first annual meeting of shareholders was held at the mine on May 25. A large number of shareholders, representing over three-fourths of the whole proprietary, were present. After a careful inspection of the underground operations and the new dressing floors, consisting of two complete sets of self-acting machinery in course of construction, the meeting was held at the office,

Mr. BIRCELL in the chair.

office.

The CHAIRMAN, after resding the notice convening the meeting and expressing his great satisfaction at the splendid indications: a prosperous mine they had just witnessed, called upon Mr. A.l. Armstrong, the managing director, to make a statement of the pro-

and expressing his great satisfaction at the splendid indications of a prosperous mine they had just witnessed, called upon Mr. A.I. Armstrong, the managing director, to make a statement of the progress of the und-rtaking from the incorporation of the company, and the prospec is for the ensuing six months.

Mr. A. J. Armstrong said: I fancy that all of you who have seen the mine to-day will acknowledge that lead mining properly conducted, is not at all a had speculation. Here we have two large and wis defined lodes opened upon for a considerable distance, and yielding, as far attage have been explored, lead ore in large quantities. Besides these new and imponent discoveries, we have the old mine, which all agree in stating was proised; large quantities of ore up to the very last day it was worked by the late expany, to fall back upon. The resumption of the old workings will have our effectively and the state of the control of the old workings will have our effectively and the state of the state of the state of the control of the old workings will have our effectively and the state of the state

sent to market as much as 82 tons of lead ore simply with the aid of hast crushers and jugers.

After some further remarks from the Charman and some of the shareholder, it was resolved to declare a dividend of 10 per cent. per annum; and the merid concluded with a vote of thanks to the managing director. Mr. A.J. Ammissa for his excellent and most energetic management of the company's affair: a Captain E. Dunkin and the under-agent for their persevering attention to their duties, and to the Chairman and the directors for their presence that day, and their attention to the company's affairs generally.

DUCHY GREAT CONSOLS MINING COMPANY.

The ordinary general meeting of shareholders was held on Thate y.

Col. WYNNE in the chair.

The SECRETARY having read the notice convening the meeting the report and balance-sheet were taken as read. The following is the report of Capt. James Richards (manager), showing the work accomplished during the past year:—

My 15: South Maria: At this mine the 70 has been driven 19 fms, or a total of 5 fms, west of the engine-shaft, by the side of the lode, and at the most extremely the state of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the side of the lode, and at the most extremely the lode.

95 fms, west of the engine-shaft, by the side of the lode, and atpoint reached a rise has been put up and communicated with a
the bottom of the 8n, east of Ellis's winze at Latchley, by which
it latton has been secured for the carrying on of the further towinnes.—Latchley Consols: At this mine the 80 east has been dy
mines.—Enterliey Consols: At this mine the 80 east has been dy
mine 12 fms. or a total of 28 fms., chiefly by the side of the lot
extreme point reached a winze has been aunk, and communica
put up from the 70, as noticed above. The lode in this divege
into at one point, is worth 2 tons of one per fathom. As already
reports, the tode in Ellis's winze for the fret. 14 fms. below the
worth on an average 5 tons of one and mandic, or 15t, per fathon
the 74, east of the engine shaft, west of Ellis's winze (in which to
3 tons of one per fathom. In the present end the lode is worth
3 tons of one per fathom. In the present end the lode is worth
per fathom. The 28 has been driven west of the new shaft 2½
the first 2 fms. proving 3 ft. wide, and worth 3 tons of one, or 6;
the present end it is san il—8 in, wide—composed of capel and qproportion of copper ore and mundle. The 28 has been driven the first 2 fms.

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ween the two mines, cross-cuts will now be driven different points, both in the 70 weet, at South Maria, as also in the 80, east of Ellia's winze, for the purpose of ascertaining the size of the lode and for testing the value thereof, and the value of certaining the size of the lode and for testing the value thereof, and the value of earlier of the control of the CHARMAN, seconded by the Hon. HENRY BROUGHAM, it was unanimously resolved that the report and balance sheet now tread be, and they are hereby, received, and adopted, — On the motion of Mr. JOHN YOUNG, are hereby, received auditor for the ensuing year. — On the motion of be, and he is hereby, the control of the con

me aware.

Capt. JAMES RICHARDS (manager) stated that, the communication between the Capt. JAMES RICHARDS (manager) stated that, the communication between the mounts having been effected, cross cuts were now being driven, and in about three mouths the lode will be intersected at several points, soon after which its size three mouths the lode will be intersected at several points, soon after which its size and character will be ascertained. He also stated that the appearances were prograble.

WEST ESGAIR LLE MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, Austinfriars, on May 27, for the purpose of considering the inancial position of the company,—Mr. E. Apps SMTH in the chair, financial position of the company,—Mr. E. Apps SMTH in the chair. The CHAIRMAN said the directors had done everything possible to The CHAIRMAN said the directors had done everything possible to early on the operations of the company, but had not been supported by the shareholders—hence were reluctantly compelled to recommend that the by the shareholders—hence were reluctantly compelled to recommend that the by a success if the operations were carried on. As the board had communicated so be a success if the operations were carried on. As the board had communicated so has a success if the operations were carried on. As the board had communicated so had been any further remarks; therefore, would content himself by proposing him to make any further remarks; therefore, would content himself by proposing him to make any further remarks; therefore, would content himself by proposing wind up the same, and that the West Esgair Lie Mining Company (Limited be wind up to the same, and that the West Esgair Lie Mining Company (Limited be wind up to the same, and that the West Esgair Lie Mining Company (Limited be and arried.

After a brief discussion the resolution, having been duly seconded, was put and carried.

Mr. Thomas and cocck (a director) and Mr. W. Robertson, accountant, were elected.

ad earlied.
Mr. Thomas Poccek (a director) and Mr. W. Robertson, accountant, were elected keddens, with a joint remuneration of 50 guineus.
A vote of thanks to the Chairman closed the proceedings.

DEVON GREAT CONSOLS COMPANY (LIMITED).

DEVON GREAT CONSOLS COMPANY (LIMITED).

A general meeting of shareholders was held at the office, Gresham House, on Tuesday,—Mr. W. A. Thomas in the chair.

Mr. A. ALLEN (secretary) read the notice convening the meeting. Mr. A. ALLEN (secretary) read the notice convening the meeting the last is months has exceeded that of the previous half-year, but the proceeds have been less. The amount received for arsenic up to the date when the accounts were been less. The amount received for arsenic up to the date when the accounts were been less. The amount received for arsenic up to the date when the accounts were specified by a satisfactory price for the arsenic to be manufactured during socceeded notatining a satisfactory price for the arsenic to be manufactured during socceeded notatining a satisfactory price for the arsenic to be manufactured during the system than the same time, it must be observed there is a notation of the prevention of the requirements for prevention of the prevention of

and accounts of think the present balance-sheet was as favourable as the last.

Mr. Mossis explained that the present statement embraced seven months' costs against six months' receipts; in addition to that, the company was in a much better position, because they had 2900V, worth of arsenic that he d not been shipped up to that period; nearly the whole had been shipped since, which might be added to the 990V. They now sold one every month, owing to the better position of the mine.

up to that period; nearly the whole had been shapped since, which image to the spool. They now sold ore every month, owing to the better position of the mine.

Mr. SMITH said he was but a small shareholder, but several of his friends held a large interest. It seemed to him that the expenses of the London management were very large, amounting to 17 per cent. upon the capital. He considered the directors should be paid in proportion to the dividend paid to the shareholders.

The GRAIRAN said the new shareholder was going altogether upon wrong premises in calculating the expenses according to the present capital; the expenses ally were upon the amount of business done—that amounted to 50,0004. A-year.

Mr. Redpath said his co-shareholder had misapprehended the position of the expense exceeded the capital, as it amounted to only 1024, but dividends were turned of more than 1,000,000. The statement of Mr. Smith was an utter fallacy. If shareholders went by the services rendered, the directors were well entitled now a larger remuneration, because their labours had been immensely increased, shareholders were greatly indebted to the directors, and there were several reasons why the shareholders whole be well pleased with the accounts now before the meeting, and that they had not been called upon to pay calls. As to the directors' empensation, he could not understand any more advantageous remuneration, having regard to the actual labour performed, he should be very sorry to see the amount decreased, even under rades se circumstances.

The GRAIRMAN, in reply to a question, stated that, deducting the ore sold during the year, the reserves were keept up at 30,000 tons.

A SHAREHOLDER asked when a dividend was likely to be paid?

The CRAIRMAN aid as soon as possible. If anyone could tell them when copper ad arealto anometed with then a dividend to be paid until it could be legitimately paid.

The reserves were keept up the type could answer the question as to when a dividend would be paid. He never had done, nor would be co

The reports and accounts were received and adopted, and 30 guineas were voted as a elucational grant for the promoting of the schooling of the children of the mices, and assisting local charities.

Mr. Monnis, in reply to questions, stated that the copper ore reserves could be raised at 4. per ton, from which should be deducted about one-half for expenses, making them worth 82,000.; in addition there was the arsenical mundic.

Con the proposition of Mr. Newhold, seconded by Mr. FITEGERALD, the reling directors were re-elected the compensation to the directors for the past year be 100 guineas —Mr. HORYASTLE seconded the proposition.

Mr. SHITH proposed as an amendment, that the sum voted be 200 guineas, which was seconded.

was seconded.

The CHAIDMAN said by the Articles of Association the directors could only demand 100. When, however, the returns were paying 60,000. a year in dividends they had no more remuneration than the amount now proposed.

The amendment was put, and only two hands were held up in its favour, upon which the resolution was put and carried.

Mr. MORRIS, in reply to a question, said that the approximate value of the senical numble would be about 11. per ton, and there were 22,500 tons.

Capt. RUTHARDS added that there were some thousands of tons of halvans. The anditors were re-elected, with a remuneration of 40 guineas for the past year. The proceedings then closed.

HINGSTON DOWN CONSOLS MINING COMPANY.

The sixth general meeting of shareholders was held at the offices the company, St. Andrew House, 28, Cornhill, on Wednesday, Mr. THOMAS MORRIS in the chair.

Mr. THOMAS B. LAWS (secretary) read the notice convening the

the directors stated that they were unable to lay before the m factory statement, as in consequence of the partial failure of a ort of the directors stated that they were unable to lay before the mem-estificatory statement, as in consequence of the partial failure of some at promising points in the mine the returns have not been maintained; stabil is now down to the 160, and every exertion is being made to reach one ground gone through in the levels above, and which so effectively ore ground gone through in the levels above, and which so effectively or a cannot recommend any division of the balance in hand, inasmuch spatiel costs are in excess of the returns. Richards in his report says—"I ke will be observed from the above par-at the course of ore at and about Rowe's winze does not at present con-

apt. J. Richards in his report says—"I I will be observed from the above parlars that the course of ore at and about Rowe's winze does not at present concilians that the course of ore at and about Rowe's winze does not at present concilians that the course of ore at and about Rowe's winze does not at present concilians the west. This, the loss winze, below the lewest. This, withing one winze, below the fin. Level, 43 fathoms to the west, is going down in a good course of ore, worth the length carried (10tr.) fully 50? per fathom. This, within good lode passed with the lost, from Rowe's to Cocking's winze, 38 fathoms in length, will, idded the ore continues to hold down as at present, enable us to maintain the sat rate of samplings of 250 tons, at a monthly cost of 700%. We sampled to computed, 251 tons of ore, for sale on the 22nd prox."

csmr. W. A. Thomas, Thomas Morris, Joseph Deane Browne, and Harry Pitts were re-decled directors; and Messers, James Yalden and James Waddell appled and different control of the proposition.

be Chairman moved that the report and accounts be received and adopted. It. Halls seconded the proposition.

be Chairman moved that the report and accounts be received and adopted. It. Halls seconded the proposition.

By Richards, in reply to a question, stated that he thought the costs could be reduced much the result of the proposition.

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By Richards, in reply to a question at the proposition of the major was proposition.

eground was very hard. He would, however, take care to seep were still high, in ho the very lowest point consistent with efficiency. Wages were still high, if abour rather scarce. There were about 150 hands employed underground, if about 30 at surface. The Charaman said they could only regret the produce of the mines was not of higher quality, and that the price of copper was not so good as they could wish. The Succertary, in reply to a question, stated that there was in hand with bills, 50%. The last sale of ore would leave a loss on the two months working.

A SHABEHOLDER said that at the previous meeting he had referred to the absence of a profit and loss account, and he had understood a sort of half promise was made that such an account should in future be attached at the foot of the balance-sheet. Mr. BROWNE said that as far as sales and costs were concerned the result could easily be arrived at for the half-year; but the directors would consider the matter, and see if it could be done at the next meeting. A SHAREHOLDER asked if another call were likely to be made? —Mr. BROWNE said there was a good balance in hand, and there were bills in hand to a respectable amount, so that he saw no reason to expect a call would be necessary. According to Capt. Richards's report, the mine had improved in richness the past week. —Capt. RICHARDS: Decidedly, at Nicholl's winze, which is the deepst point in the mine. —The report and accounts were received and adepted.

A vote of thanks to the Chairman closed the proceedings.

TREBEIGH CONSOLS MINING COMPANY.

A general meeting of shareholders was held at the offices, Crosby House, on Thursday,—Mr. W. S. SUTTON in the chair.
Mr. WM. WARD (the secretary) read the notice convening the
meeting, and the minutes of the last were confirmed.
The accounts, including the May cost, showed a debit balance of
the sum of 8671. 8s. 8d.

Mr. Wa. WARD (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The accounts, including the May cost, showed a debit balance of the sum of 8677. 8s. 8d.

The report was read, as follows:—

May 30.—Since the first general meeting of the company, held in December, 1875, we have cleared and secured the tail of the adit with timber, co-teaned as far west as thought advisable in search of the north and south lode, that is said being so deep we do not leve engine shaft is being sunk, but the short of the sund ground, but when the east and west lode is intersected by the cross cut from engine shaft, and driven on both east and west, it will prove a cross-cut to the north and south lode. A new cartroad has been made from the main read to the engine-shaft, 120 fms. long, for transit of all materials, 4c., to and from the mine-gine-shaft, 120 fms. long for transit of all materials, 4c., to and from the mine-gine-shaft, 120 fms. long and 6 ft. 6 in. wide within timber, but in consequence of the water being so quick for manual labour we were obliged to abandon it until the engine is set to work. The soil taken off and foundations taken out for both engine-houses, boller-house, and stack. The walls for the 40 in, engine-house is the second week in June, so that we may commence at once to put up the roof with all speed for the reception of the engine. The toundation of the stack is laid and the building up some feet. All stone from the engine-house produced the second were may require to complete the buildings from his quarry at 6d. per wind and the building up some feet. All stone from the engine house is 180 fms. The soil taken of the second were may require to complete the buildings from his quarry at 6d. per law and the second were made to a second to the second were made to the second were made to the second were made to the second were second with a second with

Mr. Hitchiss would not consent to the expenditure of 1s. more than was obso lutely necessary.

Mr. Prance said that it seemed to him that everything recommended appeared to be wrong.

Mr. Tankarb was very sorry that this discussion had taken place, or that it had taken the form it had done. They were now crying over spilt milk, an expenditure had been commenced which they could not get out of; therefore, they must do the best they could, and the best now was to carry out the operations fully, and see how soon satisfactory results could be realised.

Mr. HITCHISS said his argument was not for the future, but for truth. He wanted shareholders to know that the committee were anxious to conduct the company's affairs in the best way, and he hoped they would now be convined that everything would be done as economically as possible consistent with efficiency. After some further discussion the accounts were passed and allowed, and with the report were ordered to be entered upon the minutes. A call of 1s, per share was made. The committee of management were re elected.

A vote of thanks to the Chairman concluded the proceedings.

CARN BREA MINING COMPANY.

The quarterly meeting of shareholders was held at the mine, on

The quarterly meeting of shareholders was held at the mine, on Wednesday,—Capt. TEAGUE (the manager) in the chair.

The accounts showed that the labour costs for October were 2065l.; for November, 2064l.; and for December, 2037l. The last instalment for the extra month was 592l.; merchants bills, 3333l.; carriage, 271l.; dues, 197l.; Vice-Warden's assessment, 8l.; doctor's pence, 48l.; making a total debit of 10,619l. Copper ore sold, 1574l.; black tin, 7045l.; arsenic, 214l.; carriage of black tin, 33l.; old iron, 404l.: making the credits 9273l., and showing a loss on the three months' working of 1345l.; and, after crediting the balance at the last account, this would leave a sum against the adventurers of 985l.

On the motion of Dr. Hingston, seconded by Capt. Cleames, the accounts, as read, were passed. The following is from the agent's report:—

On the motion of Dr. HINGSTON, seconded by Capt. CLEAMES, the accounts, as read, were passed. The following is from the agent's report:—

Highburrow Lode: In the 250, diving east of cross course winze, the lode is becoming more settled as we leave the cross-course, and in a fathom or two driving we expect a decided change. This has invariably been the case in the upper levels. In the winze sinking under the 238 the lode is worth for tin 60. per fathoman most promising lode. This winze it about 5 fms, before the end referred to above. In the 238, diving east of cross-course winze, the lode is worth for tin 30l, per fm. The 238, west of cross-course winze, the lode is worth for tin 30l, per fm. In the 226, driving east of Highburrow east shaft, the lode is worth for tin 13l, per fm. In the 225, driving east of Highburrow east shaft, the lode is worth for tin 13l, per fm. In the 225, driving east of Highburrow east shaft, the lode is worth for tin 13l, per fm. In the 21s, driving east of Highburrow east shaft, the lode is worth for tin 13l, where it now is, to the 226 during the coming three months, and when completed it will greatly assist in the discharge of the stuff now being broken in the 228. We are also bringing down a diagonal shaft from the 150, at Highburrow east shaft, and to communicate with the cross-course winze, which is sunk to the 250, and previously referred to. We have at present difficulty in discharging the stuff from this point, which the diagonal shaft will enable us to overcome when completed to that level. This will take, to complete to the 250, at little over four months from thistime. We might remark that the pitwork is in very good order, the fixing of which was alluded to in our last report. A number of points on doub tout that our returns of tin will increase from this date.

In reply to Dr. Hixgstox, the Chairman said he did not think of dealing with the adverse balance for the present. They could do without a call.—Dr. Hixgstox the wind under said of the promise to be better boys in

our returns, and these shafts will afterwards come in to help us to keep up the increase. — Capt. CLEAMES: It is very encouraging. ——The CHAIRMAN: We must have something encouraging when everybody is dull. However, I am telling the truth, and I do not think I am very far wrong in what I have predicted before; and, moreover, I do not think our prospects were ever so good as they are at the present moment. There are three or four mines in Carn Brea, so that it one point fairs it will be a hard fate if others do not come to our assistance.

Mr. HALL: It was stated in the papers that you bought a large winding-engine. The CHAIRMAN: I am glad you have mentioned that. I intended to have done so, and ought to have made a note of it. I have bought a winding-engine, the price of which is 300!. — Capt. CLEAMES: Little more than the price of old iron. —
The CHAIRMAN: It is a 26-in, cylinder engine, and quite large enough for our purpose. — Mr. HALL: Whereabouts will you put it? —The CHAIRMAN: On the Highburrow lode, in the place of the old engine there. It is possible that several parts of the old engine will be available for inting up the new engine, and when we have got it up we shall repair the old engine, and put it up in the eastern part of the mine. I must ask you to approve of the purchase. — Capt. CLEAMES: It is a wonderful bargain, and I suppose you had a holler. — The CHAIRMAN: Yes: a lotton boiler. As a rule, I am not dravourable to buying second-hand engines, but this engine was made at the same time as the man-engine was made for Tincroft, and the engine at Tincroft they were prepared to pit against any other engine in the county. Mr. HALL: You have been experimenting with some new stamps at St. Agnes?

wonderful bargain, and I suppose you had a holler.—The CHAIRMAN: Yes; a to-ton boiler. As a rale, I am not favourable to buying second-hand engines, but this engine was made at the same time as the man-engine was made for Tincroft, and the engine ut Tincroft they were prepared to pit against any other engine in the county.

Mr. HALL: You have been experimenting with some new stamps at St. Agnes?

The CHAIRMAN: Yes; but cannot form any judgment yet.

Dr. HINGSTON thought they were greatly indebted to the manager and agents of that mine for the way in which they conducted it. From the superficial aspect of that mine for the way in which they conducted it. From the superficial aspect of that mine for the way in which they conducted it. From the superficial aspect of that mine for the way in which they conducted it. From the superficial aspect of the things of the pine of the conducted it. From the superficial aspect of the things of the pine o

TINCROFT MINING COMPANY.

The three-monthly meeting of adventurers was held at Carn Brea account-house on Wednesday,—Capt. Teague (the manager) in the chair. The labour cost for October was 14074.; for November, 14374.; for December, 14784.; and for the 13th month, 13994. Merchants' bills, 15854.; carriage, 2334.; dues, 2344.; Vice-Warden's assessment, 37; making altogether 78874. Black tin sold, 214 tons, 88754.; copper ore, 3004.; carriage of black tin, 194.; making the total credits 91944, showing a profit of 13074. That, added to the balance at last meeting, left an available balance of 15314. The CHAIRMAN had been looking at what they did formerly, and he found that from the same quantity of tin sold in 1872 as now they were in a position to declare a dividend of 12,0004. He proposed a dividend of 5s, per share, and this was carried, and the accounts past.

The agents reported that on the Highburrow lode the 334, west of engine-shaft, its worth 104, per fathom; the 234, east of engine-shaft, 124, per fathom; the 240, east of Downright shaft, 204, per fathom. The balance shaft, 144, per fathom; the 244, west of Downright shaft in Chappel's lode, 304, the 246, east of Downright shaft, 124, per fathom. The winzs sinking under the 234, west of Downright shaft, and the worth 504, per fathom. The 234, driving east of Downright shaft, and worth 50, per fathom. The 25, east of man engine-shaft, under the 169, was worth 504, the 169, west of shaft, 124, the 159, west of shaft, 104, and 140 west, 64, per fathom. The 109, east of man engine-shaft, was worth 54, per fathom. The 109, east of man engine-shaft, was worth 54, per fathom. The 109, east of man engine-shaft, was worth 55, per fathom. The 109, east of man engine-shaft, vas worth 56, per fathom. The 109, east of man engine-shaft, vas worth 56, per fathom. The 109, east of man engine-shaft, vas worth 56, per fathom. The 109, east of man engine-shaft, vas worth 56, per fathom. The 109, east of man engine-shaft, vas worth 56, per fathom. The 109, east of man engine-shaft, vas worth 56, pe Tie three-monthly meeting of adventurers was held at Carn Brea

after thanking them for the management of a mine which was not paying dividends.

The CHAIRMAN returned thanks, and said he thought they could not but be pleased at the result at Tincroft of the last three months' working, and he saw no reason why they should fall off in their credits of tin, because they had improved their position a little, and he dared say they would go on and improve. Of course it was satisfactory to him to know that all was not bad in these days of depression in mining, when hardly anybody had a good word to speak of it. He was not without hope that mining would look up again. No doubt they were all on the qui rive as to a rise in the price of tin, and he would say "haste the happy day." With respect to the mine, it was much the same as it has been for years past—no worse, and he trusted they should go on for many years to come, as he had every reason they would, with similar results as far as regarded the quantities raised. The amount of profit would, of course, depend upon the price got for the commodity which they went to market. If that improved they had a great thing to look forward to in Tincroft. They were now quite as well as most of their neighbours, and he thought Tincroft and Carn Brea would continue to work at prices that others could not work at —The meeting then separated. —West Briton.

LLANRHAIRDR MINING COMPANY.

The first annual general meeting of shareholders was held at the offices of the company, London Wall, on May 27,

Mr. Edward Hilton in the chair.

Mr. EDWARD HILLTON in the chair.

The SECRETARY read the notice convening the meeting, and the directors' and agent's reports.

Capt. E. Pascoe said that "the property is very extensive: 15 or 20 men are a very small number to be employed in such a mine. If a larger number of men were employed our chances of success would be greater."

The CHAIRMAN said the mine appeared to be just in that transitional state in which success was immediately in propect, but in order to accomplish that success they required further capital.

A discussion ensured as to the directors' fees and expenses of management, in which Lieut. Col. H. B. Scott, Major Ross, Mr. George Budd, Mr. W. T. Mastæman, and other shareholders took part, and the directors agreed to allow their fees to stand in abeyance for the time being.

The CHAIRMAN explained that since before Christmasthey had not received anything. The directors' fees were exceedingly low, and the expenses of management were necessarily as great as when the operations were more extensive. If they had had capital to work at more points they would have been small by contrast, and he believed would have been amply compensated for in the great efficiency of management, and the economy effected by the co-operation of the manager and agent. He and the other directors had a large interest in the company, and they looked at these points.

Major JOHN Ross said the main point was the capital not being subscribed. Had it been the directors would have been able to develope the whole mine, and in doing so would have been able to bring a large amount of ore into the market, so that instead of there being a balance against them it would probably have been in their favour. There was naturally a feeling of disappointment, and when he first read the account he sympathised with the feeling expressed by the gentlemen present.

present.

It was then resolved, on the motion of the Chairman, seconded by Mr. A. D.

SMITH—"That the directors' and agent's reports and the balance-sheet be received and adoptel." Messrs. Denton and Hilton were re-elected directors, on the motion of Mr. J. Taylon, seconded by Mr. Joshua Moss.

Major Ross thought it a matter of satisfaction to the shareholders that they had gentlemen in the direction who had such a large amount of money at stake. He was comparatively but a small holder, but he had stuck to the mine from the commencement, and that fact had influenced him very much. He had take no some trouble to become acquainted with the parties at the head of affairs, and the more he knew of them the more satisfied he was of their strict integrity.

On the motion of the Chairman, seconded by Mr. John Mrginn, Mr. David Baxter was re-elected auditor, at the former remuneration.

Capl. PASCE (the company's agent at the mine) said the deep adit level was being driven at a very low rate, and they were now in close proximity to the line of the winze sunk below No. 4 level. He had every confidence in the mine, and believed they would have a good course of ore there very soon, when it would no doubt prove a most splendid success.

A cordial vote of thanks to the Chairman was passed, on the motion of Mr. T. W. Masterman, seconded by Major John Ross.

SILICATE AND GRAPHITE MINES.—Operations have been concreted for some months in the neighbourhood of Hartington, Derbyshire, in the huvial deposits on the domain of Mr. T. Bateman, of Middleton, who has granted r some years the rights and appropriation of the rich deposits of silicate and



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aluminous clays, magnetic, graphitic, and other minerals to Mr. Frederic Booth, analytical chemist, London, and Mr. George Holcroft, C.E., of Manchester. The use of these silicates and other minerals as refractory adjunct for smelting purposes is the duplication of similar successful applications of the same materials in like form and substance as upon the Continent and United States of America. A patent has been taken out for the process.—Iron.

FOREIGN MINING AND METALLURGY.

In the Belgian iron trade affairs remain in a depressed and suffering condition, without any hope of early improvement. At an adjudication for 1100 tons of Vignoles iron rails, without accessories, the lowest tender was that of MM. Sabatier, of Monceau, who offered to supply the lot at 54.19s. 6d. per ton, with delivery at Marcinelle. Some Belgian industrials would appear to be under the necessity of procuring work at almost at any price, and the tender price just reproduced indicates tolerably clearly that no revival in business has either taken place or is among the early eventualities of the future. In the Grand Duchy of Luxembourg pig has been declining; it can be obtained at the furnace at 24.4s, per ton, but even at this low price it is disposed of with difficulty. Tenders are invited for 25,000 tons of Bessemer steel rails for the Berlin and Anhalt Railway. A contract is also about to be let at La Haye for 32 turn-tables. A new transway locomotive has been completed by the Belgian Metallurgical and colliery Company at Tubize, and has just been tried on the Bois de la Cambre line. The experiment is considered to have been successful. The new engine makes little or no noise, gives out no smoke or steam, and frightens no horses—these are the advantages claimed for it.

Business in copper has presented little activity at Paris, having In the Belgian iron trade affairs remain in a depressed and suffer

dered to have been successful. The new engine makes little or no noise, gives out no smoke or steam, and frightens no horses—these are the advantages claimed for it.

Business in copper has presented little activity at Paris, having been confined to the immediate requirements of consumption, which have rather fallen off of late. Prices have at the same time been pretty well maintained, Chilian, in bars, delivered at Havre, having made \$50, per ton; ditto, ordinary descriptions, \$30, per ton; ditto, in ingots, \$60, per ton; English tough cake, \$50, per ton; and pure Corocoro minerals, \$41, 14s, per ton. At Marseilles there has been very little doing in copper of late. There has been rather more animation upon the German copper markets, and some important transactions have been reported. Transactions in tin have been comparatively limited at Paris, nevertheless prices have been rendily sustained. Banca, delivered at Havre or Paris, has made 900; Straits, ditto, \$600; and English, delivered at Havre or Rouen, \$11, per ton. The German tin markets have been tolerably well maintained. At Rotterdam the tin market has been firm, but there has not been much business passing upon it. Banca has been held at 493 fls.; business, with delivery at the approaching sale, has been at the more offered. Quotations for lead have been rather weak at Paris; French lead, delivered at Paris, has made 220, per ton. There has been no variation worth mentioning upon the German lead markets. Quotations for zinc have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The German zinc markets have been tending downwards at Paris. The

and the state of affairs appears, upon the whole, to be rather more f.vourable than might, perhaps, have been expected. As regards minerals, the imports, which amounted in the first four months of 1875 to 298,000 tons, declined in the first four months of this year to 239,000 tons, showing a diminution of about 20 per cent. The exports of minerals from France in the first four months of this year declined to 22,000 tons, as compared with 48,000 tons in the corresponding period of 1875. The aspect of the French iron trade remains much the same. Rolled charcoal-made iron, machine iron, and sheets, are a little neglected for the moment, but coke-made iron has been in rather more request. Paris has been giving out some rather heavy orders for iron for building purposes. The works of the Nord are stated to be not badly off for orders; one of them has just concluded a contract for 6000 tons of rails for a French rail way.

railway.

The Belgian coal trade remains in much the same condition. Coke from the Liége basin is offered at 16s, to 17s, 8d, per ton; washed coke from the same source has brought 17s, 8d, to 19s, 2d, per ton. Foreign coal, and especially Westphalian coal, effectually holds the price of Belgian coal in check. A "Mineral Industry Congress" is about to meet at Douai; the Congress will probably make an excursion into the Couchant de Mons. The Royal Asturian Mines Company, a Spanish undertaking, in which a certain amount of French and Belgian capital is engaged, is enabled to give its proprietors a dividend of 2l. 16s, per share, as compared with 2l. 8s, per share distributed for 1874. The undertaking is expected to benefit to some extent from the close of the Carlist war.

There is still a good deal of depression in the French coal trade, although a rather marked increase in the deliveries has been noticed

although a rather marked increase in the deliveries has been noticed anthough a rather marked increase in the deriverses has been noticed in the basin of the Loire. We must not conclude from this that there has been a general improvement; on the contrary, the Nord and the Pas-de-Calais are at present extracting and selling comparatively little coal. A company has been formed in Belgium with a view to the prosecution of sinkings for coal in the coal basins of the Nord and the Pas-de-Calais, the coal basin of the Saone-et-Loire, the coal basin of the Rhyre, (Balgium), the coal basin of the Rhyre. the Nord and the Pas-de-Calais, the coal basin of the Saone-et-Loire, the coal basin of the Herve (Belgium), the coal basins of the Rhur and Prussia, Holland, &c. M. César Plumat, of Mors, is the president of the new company. M. Bruay, a mining engineer in the Pas-de-Calais, is also associated with the enterprise. The Alais Mines, Foundries and Forges Company commenced the payment on Thursday of an interim dividend for 1875 at the rate of 16s, per share. The aggregate production of coal in France last year is officially returned at 16,949,031 tons, as compared with 17,059,547 tons in 1874.

NEW ZEALAND .- The Correspondent of the Times, writing from New Zealand.—The Correspondent of the Times, writing from Wellington, April 4, says that at Hiskitika, on the west coast of the Southern Island, what appears to be an important discovery has been made of an extensive deposits of galena ore very rich in silver. It seems that the existence of this galena in considerable quantity has long been known to the miners in the neighbourhood, but with them nothing but gold was worthy of consideration, and it is only a few weeks ago that steps were taken to ascertain its real value. That question has now been decided by the receipt of the following analysis from the laboratory of the Melbourne University:—

off of the following analysis from the second of the following analysis from the first second of the following from the first second of the first

ing a high assay, but were out of large boxes filled with the mineral, which we had an opportunity of examining before shipment. There were at least 5 or 6 cwts. of epecimens sent away, and anyone who may desire to inspect as much more can avail themselves of the opportunity by stepping in to Messay. Pollock and Besan's office in Wharf street, where they will find a table covered with it, or if they prefer journey up the left hand branch of the Waithal river, a few miles south of Ross, they can see hundreds, may hundreds of thousands, of tons already exposed. Buch is the statement of the working prospectors, and there is not the elightest reason to doubt the truthfulness of their story. On the contrary, their statements are in keeping with their action in the mat er, and both go to prove beyond all question that their belief is that a most important discovery has been made by them."

ROLLING MILL PRODUCTS AT THE CENTENNIAL.—The exhibits of the Cleveland (Ohio) Rolling Mill Company at the Centennial contain many features of novelty and interest. The wire department is represented by the contents of 15 cases, which will contain every possible style variety and quality of ment is represented by the contents of 15 cases, which will contain every possible style, variety, and quality of wire, one case alone containing 60 different kinds, from the coarsest to the finest, some containing of different kinds, from the coarsest to the linest, some drawn to the diameter of a heir, and so pliable as to admit of being used as thread. Another case contains a pyramid 5 ft. in height composed of colisiof diffesent sizes and qualities. One of the curiodites in this department is a long stread drawn into the shape of a carriage whip, 7 8ths of an inch in diameter at the butt, and tapering to shoot impalpable fineness. Iron steel, copper, brass, and allows where mades up the list; drawn square, oval, round, twisted, hollow, and three-cornered in shape. This display is certainly one of the finest that it is pos-

ible to make in this line. The display in the other departments is equally as good, rithough not so attractive. There are, among other things, three pieces of Bessemer tail, each 7 ft. long, taken from a promiseuous lot, and each twisted four complete turns without causing a flaw or break of any kind in the metal. These pieces were wisted cold. One of the most novel and telling features of the display is in the shape of a steel rail which was laid on Lake Shore Road over six years ago, and has been in constant service during all that time. The rail is in fair condition, and would do still further service. Numerous specimens of Siemens Martin steel and boiler plate, bent in every conceivable shape to show the quality and renacity of the metal, are included in the lot; also, a great variety of forgings, consisting of points and heel points, crank-pins, spindles, &c. A bar of Bessemer horseshoe steel, grooved and prepared for cutting and forming, has eight twists in its length of 2 ft., and shows no sign of flaw or weakness in any part. A three rail bloom of Bessemer steel completes the lot. This bloom is 7½ in. square, and has been cut off by the shears at one end, and broken at the other.—Cral Trade Journal.

FOREIGN MINES.

RICHMOND CONSOLIDATED. -Telegram from the mine at Eureka, Nevada

FOREIGN MINES.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada—Hall, London: Week's run, \$40,000.

— R. Rickard, May 11: The 700 drift is about the same. The intermediate drift (50 ft. above the 700) is looking well, drifting in very good ore; according to its bearing above we shall so in have the same body in the 700 drift. There has been nothing done in the atope above the 800. The shaftmen have been working in the No. 2 stope, on back of the 600, where the ledge narrowed, and I am glad to say it is looking very much better, and the ore is of good quality. Two furnaces are in last. The machinery is being worked by the small engine all the year; the big engine is here, and we hope to get it ready to work some time next week.

GOLD RUN (Hydraulie)—J. A. Stone, May 9: My has letter to you was on April 22, since which I have been from home. On my return I found the Miners' Ditch Company about to make a partial clean up from my tunnel down to their main tunnel. I determined not to clean up until they make a through clean up, which must be the latter part of this week or the first of next week. By so doing I shall get more wear from my blocks, as they will stand three long runs, but would not last four short runs, from the fact that it is impossible to fasten them in the sluice, so the water will not wash them out when they are badly worn. I have made good progress in washing since my last letter, and the gravel looks much better. The large strata of sand which I have encountered in the washing heretofore are fast disappearing. I anticipate much better results from the washing from this time forward. I shall soon clear up, and cable you the result at once, which you will receive before this reaches you.

SAN PEDRO.—W. Phillips, April 15: The 150 fm. Level: The various drivages are producing good stones of ore this reaches you.

SAN PEDRO.—W. Phillips, April 15: The 150 fm. Level: The end driving round the manto, south of west, is producing zood stones of arety ore, but not to value.—The 110 fm. Lev

out.—The 47 fm. Level: The cross cut driving towards the Cuba is without change, and growing easy for driving. All the machinery, &c., working well. The sale of ore \$460.

DON PEDRO.—The ores have been extracted from the underlie lode, Canoa, No. 6 shoot, and No. 8 shoot. The samples of general work have, on the average, seen of moderate quality. A little hox work has been taken from the Canoa, but it is very poor.—Stoping: Underlie Lode: Westward we have met with crushed ground, in consequence of the old timber breaking away in the Canoa at pes beneath. The lode in the small incline, going on the dip eastward, is very poor.—Canoa: In the incline commenced in No. 2 stope we followed the course of the line one "set," but the mineral therefrom was too poor for box work. From a part of his same vein, in the south side of No. 3 stope, eight boxes of work have been taken, but they produced only 25 oits.—No. 6 Shoot: No. 1 stope has been continued without change. We have commenced an incline rise from the 30 towards have been been considered without change. We have commenced an incline rise from the 30 towards to be sufficient at date to fork the water in the samp. Very little has been done towards inking, in consequence of the water being seldom in fork. We have fixed a self-acting flushet over 'Dexason's wheel to turn the water off immediately, in case of a creakage. Wooden pumps, measuring 6 fms. 2 ft 6 in. il length, have been made, our length of from pamps on hand be ing insufficient for the 6-inch lift now being pushed on with our limited force of mechanics as fast as the running work will permit. The bobpit of the upper balance hot requiring to be renewed, this has been done to a larger size than before.—Prospective and Running Work: The driving of the 55 cross-cut and the renewal of the 50 cross cut have been continued, and repairs to the water wheel are being made.—Explorations in Mine: The adit level exploration has been suspended, and the force removed to the driving of the water wheel are being made.—Expl

In repairs to the water wheel are being made. — Explorations in Mine: The acut vel exploration has been suspended, and the force removed to the driving of ryant's cross-out towards the north galley explorations. April 39. — Letter from Mine Captain: Explorations: In the incline in the north alley of Maquine the lode has become very poor; this lode is very fluctuating in ze and quality—some days we get fair samples, and the lode of a moderate size, a the driving north from the incline met with a fissure, beyond which the lode does of, according to samples taken, as yet appear to be auriterious. In the new level, riving west of north, from the mouth of the incline, fair samples have been taken, ut at date the lode is small and very poor. We have put four natives to drive irrant's north cross-cut on contract, to intersect the lode in the above exploration, hould it continue in depth. The rise from the old exploration level is being consinted. We have commenced two other open cuttings in the north gulley—one is bout 20 fms, west of the incline, and the other about 20 fms, each. In the south ulley we have one open cutting deiving, but up to date no auriferous sample metricule, in the cross-cut morth of Maguine good looking jacotings is being dominantly. As the course of the minesine last report, the lode having undergone little rocchange as regards size or value.

SANTA BARBARA.—June 1: Mr. Hileke (Pari, April 24) advises that nothing foot had occurred in the mine since last report, the lode having undergone little rocchange as regards size or value.

SANTA BARBARA.—June 1: Mr. Hileke (Pari, April 24) advises that nothing of note had occurred in the mine since last report, the lode having undergone little or no change as regards size or value.

FRONTINO AND BOLIVIA.—The monager (April 12) reports that owing to the extra work of the accountant this month the accounts could not be got ready for the remittance post, but will be sent forward by the next mail on May 13. The remittance cases and though we only send you a b-lance of 855t, yet I have no doubt that considerable profit remains here, and will go forward next month.

ANTIOQUIA (Frontino).—The directors have advices under date April 12, accompanied by a remittance of gold valued at 87, the produce of the mines for the month of March.—Cost: Mine cost at Frontino and expenses in London and Medellin, 295t. 16s.—Cordice: 21 cases of gold dust from 34 thos of mineral (average vield per ton 435 dwts.), 63t.; loss, 197t. 16s.—In addition to the above cost 91t. 9s has been expended on construction account.

TOLUMA.—The Frias eccounts for February and March show on the two months a loss of 215t. 15s. 40. The new manager, Mr. W. D. Powles, says, in reference to change f. whe better, and continues—I have reduced already the cost for this month (April) by nearly \$1600, without interfering at all with the mine department, which would be very imprudent to reduce: besides this. I hope to have some gold this month from the artie to go against the expense of making the ditch. Capt. E. S. Jones, reporting on the Alto Mines, says.—As the present supply of water is not sufficient to work these mines const milty with the higher and manager, we have no every imprudent to reduce: besides this. I hope to have some gold this month from the artie to go organist the expense of making the ditch. Capt. E. S. Jones, reporting on the Alto Mines, says.—As the present supply of water is not sufficient to work these mines const milty with the higher alternative continued working in the native style, which yields a clear profit of 3742. F

he rock.

UNITED MEXICAN.—Edward Hay, April 24: The Mine of Jesus Maria is ill mostly worked by buscones. The sales for the two weeks ending April 20 ill mounted to \$4.117, and the hadienda sales \$98. Some timbering in an old shuft awing given way, spoiling about 10 vards of the roadway, the requisite repairs one in progress, and in about a week it was expressed the road would be safe again. New Concern: Adit of San Cavetano and Mine of Sucnos Ayres: We are still riving through hard rock, but the end to the east is a little more favourable than so one to the west. Since March 15, when it was found that there were 73 metres drive before the communication of the two ends would be effected. 30% metres

we before the communication of the two cass women as a second river.

LrasO, -W. S. Welton, April 9: New Ditch: The new ditch proper was finished on the 17th ultimo, but there remained still 1300 ft. of cutting to he new ditch to the old one, which could not be gone on with without stop he work at the mine, as the new ditch has to be run for some distance on me ridge as the old one, and the ridge was too narrow to allow of anything done without turning off the water. Under these circumstances I thought resent time, whilst we had a large number of men on the establishment, ast for completing this work, and I put the whole force upon the work im telly after the last clean up. The cutting of the ditch has progressed rapidly, expect to have it finished on the 1th inst., and the machine running again april 18: I am very sorry to have to inform the board of the death of Mr.

taken only two days to put in a state to allow of the water reaching the mine, the feats of Semana Santa arrived, and all the men left, only to return to-day. The water will reach the mine on the 20th. The 1250 ft of dicto on the ridge carrying the old ditch has given much more trouble than was anticipated. When the exwater will reach the mine on the 20th. The 1300 ft of dilet on the ridge carrying the old dileth has given much more trouble than was anticipated. When the excavation took place we found that the upper portion of the ridge had been made by filling in hard earth, and that the portion at the level of the new dileth consisted of quickcand, upon which the Spaniards had raised their dileth by silling in earth. This made it necessary to flume a much longer portion of the dich than was at first supposed necessary. When the excavation of this bast 1300 ft. of direh was once commenced there was no remedy but to go on with it, as from the nature of the ground it was impossible to finish a portion of the ditch and then turn the water on to the mine.

PESTARENA UNITED.—T. Roberts, May 27: At Val Toppa district so far as we have gone in the present month we have made a fair quantity of amalgam, and there is no change to report in any of the points of openition in the mine. At Pestarena the lode in the bottom of the inclinesh if is not so rich in pyrites at present as when last reported. All office points underground are about the same. On the surface we are pushing on as fast as we can lie work connected with the six additional mills. We have run the first six mills the best part of the month. BENNSERG.—C. Craze. May 29: 1 am glad to inform you that the door piece, Ac., for the 7-in, lift, was delivered here on Saturday evening. We are now fixing it, and with good speed, we hope to get it working to morrow, after which we have reason to believe good progress will be made in draining the shaft to the 22. In the 14, east of Victoria shaft, we have new with a crossing, which has thrown the lode to the north, this crossing we had also in the level driven to east of new shaft, where it had a similar effect on the lode; we shall have to drive a little

orth to meet with it. The lode in the 14, west of this shordered by a small-course, which has made the ground we ordered by a small-course, which has made the ground very sis some ironstone and very pretty gossan, like that found in openation with the rich carbonate. The whole thing has a very kindig and leads me to hope for an improvement soon. Last week we suprise in scarch of carbonate, but have made no discoveries as yet; we ever, making further trials. In conclusion, I beg to say they made to get to the 22 as soon as possible, so as to resume driving the contraction of the property of the proper [For remainder of Foreign Mines, see to-day's Jou

IMPROVEMENTS IN IRON MAKING.—An improvement in the working of cupolas has been introduced at the Edgar Thomas working of cupolas has been introduced at the Edgar Thomas superintendent, Mr. William Jones. There had, it appears to superintendent, Mr. William Jones. There had, it appears be some difficulty with the cupola scaffolding, and retarded the work to remove the scaffold Mr. Jones conceived the idea of forcing fines and through the tuyere holes, and thus melting down the salams of the through the tuyere holes, and thus melting down the salams small coal as possible, and again put on the blast. The effect was small coal as possible, and again put on the blast, The effect was suand. To prevent further delay from scaffolding Mr. Jones has bromashed blast pipe, and now infuses into the blast a portion of small coal, show the blast pipe, and now infuses into the blast a portion of small coal, show the same time. But this country is the portant advantage secured by this invention. It is well known to meallarise that the great waste of iron in melting in a cupola occurs at comes in comes in considerable that the great waste of iron in melting in a cupola occurs after its offer to make at this point forms carbonic acid, which is almost as destructive to the iron as a sage through this carbonic scid and atmosphere. By the injection of the descending column of coke and metal retards the upward flow on a sage through this carbonic scid and atmosphere. By the injection of the descending column of coke and metal retards the upward for the color of the unit of the descending column of coke and metal retards the upward for the color of the indexed of the color of IMPROVEMENTS IN IRON MAKING. - An impro

PATENT MINING PICKS.—At the Centennial Exhibiton in Philadelphia may be seen the cast-steel picks and interchangeable halles of the Hardy Patent Pick Company (Limited), of Sheffield, Englad. The advantages claimed for these tools are—the fact that the picks being of a special cast-steel will attack the hardest materials usually found in mining, without yielding or breaking; the cut is make keener than that of the ordinary pick, and the blow more solid. Their portability is shown in the fact that one handle only is required for any number of picks, and this need seldom be brought out of the mine, unless used as walking stick. From the firmners of the picks upon their handles—no mone of or cutting and orizing they are much stronger than the company like handles had for cutting and orizing they are much stronger than the company like has mines of Graat Britain, where these picks are in extensive use, they are loader has four or five years without needing repairs, while the ordinary picks required resteeling every six months, or oftener. The handles are of the choicet bloke, when are not called the content bloke, and are protected from wear or nigury, where the ordinary pick landle make are very way the care and carriage of so many tools and handles are saved, and exercisely in sharpening, which is done at the smiths forge, in the ordinary man, but without the handles; thus they take up less room, and are more handy to every way the care and carriage of so many tools and handles are saved, and superially in sharpening, which is done at the smiths forge, in the ordinary mean, but without the handles; thus they take up less room, and are more handy to every way the care and carriage of so many tools and handles are saved, and superially in sharpening, which is done at the smiths forge, in the ordinary pick is perially in sharpening, which is done at the smith when the use, as detacle, they one smith, and no handles are seconched or burnt. Contractors will find the very every the care and carriage of so many tools and PATENT MINING PICKS.—At the Centennial Exhibiton in Phile

INGOT MOULDS.—Mr. I. CARLTON, of Burrow-in Furness, he patented an improvement in ingot moulds used for casting Bessener steel, and other steel ingots. Forming the top inner edges of ingot moulds with a lip in such manner that when the edge becomes went the lip on the top can be chipped round with a hammer and chieff and the mould can be preed wait! the limit is the chieff of the control of th and the mould can be used until the lip is chipped level with the side of the mould.

RADIAL DRILLS .- The invention of Mr. T. W. BEVERLEY, of Shel-RADIAL DRILLS.—The invention of Mr. T. W. BEVERLEY, of Sedfield, relates more particularly to the method of construcing the arms of radial drills, but it is also applicable to the standards or pright slides of boring machines and the girders or cross sides of planing machines and other similar purposes; and it consists essentially in constructing such arms or slides of two or more role of bars, either hollow or solid, and of a round, square, triangular, of other suitable section, and in arranging them so that they shall be supported by and slide in corresponding holes or bearings formed in suitable parts of the machine, which arrangement enables mechines of this description to be more economically produced that chines of this description to be more economically produced his when the ordinary flat or V-shaped sliding surfaces are employed.

WHITE LEAD.—Mr. E. MILNER, of Springfield, Warrington, all manufacturer, has patented a method of manufacturing white lead by forcing carbonic acid gas into basic salts of lead held in a slation of chloride to a definite result as indicated by tests.

WHEEL TYRES .- According to the invention of Mr. H. C. Dyn. of Westhope, Salop, a cylindrical blank, equal in length to the with of a number of wheel tyres, is placed upon a roller, which is the forced by hydraulic or other pressure against rolls having goves corresponding to the configuration of a number of wheel tyresik by side, so that a corresponding configuration is imparted to the blank at the same time that it is rolled out to the requireddianese. The blank is then divided into the separate tyres either in the open tion of rolling or by cutting in a lathe afterwards.

ASPHALTUM SKATING MASTIC. - Messrs. CLARK and SPILLER bare ASPHALTUM SKATING MASTIC.—Messrs. CLARK and SPILLEABSE patented some improvements in the manufacture of and producing of bituminous compounds for the construction of skating risk formage or paving. The features of novelty comprised in the provisional specification of the said inventionare—I. The composition and massfacture of bituminous compounds for the flooring or paving of skating rinks, such bituminous compounds being composed the materials mixed together in the quantities and in the proportion and treated in the manner mentioned and described in the said prisional specification as asphaltum skating mastic—2. The massfacture and production of the before-mentioned asphaltum skating mastic by the mixture of materials consisting of asphaltum, pitch, slate, and stone, all pulverised and mixed together, and treated in the manner described in the said provisional specification. the manner described in the said provisional specification.

REDUCING ORES.—The invention of Messrs. Sachsenberg and Bruckner, of Rosslau an der Elbe, mainly consists—first, in the combination of a revolving drum or vessel containing balls with a sieve fastened to the drum in such a manner that the gro stance after passing through openings in the shell is separated into classes, coarse and fine. Second, in the arrangement tion of an opening for the inlet and opening for the outlet, toth so coes reacted at or near the axis of revolution of the drum that his be ground enters the revolving drum through a stationary feed pile thence, after being ground by the balls, it passes through the opening of the drum, and the sifted substance is led through the casing of the drum, and the sifted substance is led through the cases to make the state of the drum. g drum through a stationary le the bolls, it passes through the sifted substance is led through to re it is discharged. The sieve is g vessel is not limited to any pa

KAYE'S TELL-TALE LOCK .-- A new form of tell box for preventing dishonesty on the part of omnibus conducts, a collectors of farea and tolls, and other questionable characters, a collectors of farea and tolls, and other questionable characters, a collector of the state of box for preventing dishonesty on the part of omnibas conductors collectors of farea and tolls, and other questionable characters, his recently been introduced by Messrs, Kaye and Co., of Kirkstall, set Leeds; and Mr. Joseph Kaye has now issued a pamphlet, showing by means of a well arranged extentism "why Kaye's Patent Fare Collecting Rais not as generally used as it should be, and why it should be adopted?" May gratifying testimonials as to the utility of the invention for prevening resultance Mr. T. S. Patr, henorary secretary of the Carlinghow Liberal Club, Baley, showing, that they "have had one of them in use at their club for about 15 noths to collect the charges from members playing at billiards, and it answers exceedingly well. . . . It has been the means of increasing their income no less that 33 per cent." Now, if such an excellent effect as this is produced at respectively ones the desirability of adopting it for charitable purposes can searcely eightened, more expecially as the box is quite as elegant in appearance as the nor had good to mean the control of the desirability of adopting its for charitable purposes can searcely leagues frequently sent round in churches, whilst the knowledge that every solving as frequently sent round in churches, whilst the knowledge that every solving as frequently sent round in churches, whilst the knowledge that every solving the desirability of adopting the results of the invention would be do secure increased dividents for tranways, combus, and railway companies, and it is use realizations as many of the testimonials imply, in increased returns from the same amona of the can also many of the testimonials imply, in increased returns from the same amonal abusiness that anticipation is not unjustifiable. Messrs. Kaye and Co., as also many of the testimonials imply, in increased returns from the same amonal and the same amonal of the control of the desiration would be some substitutions as many of the testimonials imply, in increased returns from the same amonal and h the

ecting

BLAKE'S PATENT STEAM PUMP.

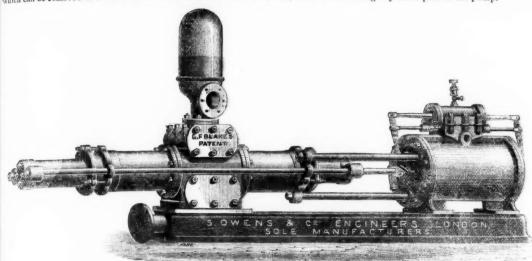
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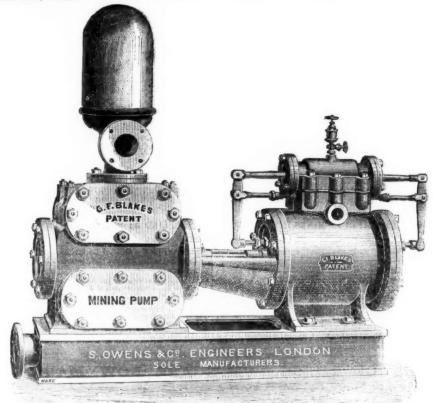
Hydraulic and General Engineers, Whitefriars-street, London; And at 195, Buchanan-street, Glasgow (W. HUME, AGENT).

These PUMPS from their SIMPLICITY, RELIABILITY, DURABILITY, and ECONOMY are SPECIALLY SUITED FOR MINING PURPOSES, where brize quantities of water require to be raised from great or medium depths with CERTAINTY. They are double-action in their construction, throwing a constant stream of water, can be made of any stroke to suit the space in which they have to work, can be arranged with any combination of steam and water cylinders to suit the pressure and lift against which it is desired to work them, are made of the very best materials and highest class of workmanship, and all working parts can be readily got at by any ordinary workman, and replaced if necessary by a duplicate part (all such being interchangeable) in the shortest possible time. For situations where gritty and sandy water has to be pumped the DOUBLE-PLUNGER PATTERN is recommended. Where space is limited the PISTON PUMP is better suited, a novel feature of which is the PATENT REMOVEABLE LINING, which can be removed in a few minutes and substituted with a new one, without disturbing any other part of the pump.



Blake's Improved Double-plunger Steam Pump. S. OWENS AND CO.,

In placing the BLAKE STEAM PUMP before the mining world, believe they are offering the BEST, MOST RELIABLE, and ECONOMICAL PUMP that has yet been made, and solicit an inspection of various sizes in operation at their works, White-frare-street, Fleet-street, Landon.



Blake's Improved Mining Pump, with Patent Removeable Lining to Pump Cylinder,

combination of these Pumps may be had to suit circumstances. The following are some of the SIZES SUITABLE FOR MINING

PRICES FOR THE ABOVE, OR ANY SPECIAL SIZE, AND ILLUSTRATED CATALOGUES FURNISHED ON APPLICATION.

PATENT CONDENSORS

be supplied for any size pump to effect a saving of fully 30 per cent. in the consumption of fuel, greatly increasing their efficiency

The Blake Pump will work under water, and as efficiently with compressed air as with steam.

BLAKE'S DONKEY PUMPS FOR FEEDING BOILERS KEPT IN STOCK.

BICKFORD'S PATENT

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FOR CONVEYING
CHARGEIN

SAFETY FUSE,
FIRE TO THE
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Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at he "INTERNATIONAL EXHIBITION" of 1862 and 1874, in London; at the "IMPERIAL EXPOSITION," held in Paris, in 1865; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; at the "UNIVERSAL EXPOSITION," in Paris, 1867; at the "GREAT INDUSTRIAL EXHIBITION," at Altona, in 1869; TWO MEDALS at the "UNIVERSAL EXHIBITION," vicans, in 1873; and at the "EXPOSICION NACIONAL ARGENTINA," Cordova, South America, 1872.



BOUTH AMERICA, 1872.

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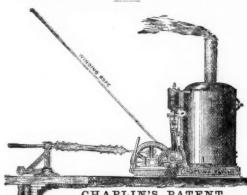
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SIMPLE and STRONG: require NO FOUNDATION or CHIMNEY STALK, and are
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Steam Cranes, 1½ to 30 tons, for railways, wharves, £c.; hoist, lower, and ture round in either direction by steam.

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FLEXIBLE PRINTING STAMPS at less than half the List Price. Key and imbrella Labels at 6d. each, engraved. DOOR and WINDOW PLATES, at very low prices.

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LONDON EXHIBITION, 1874.

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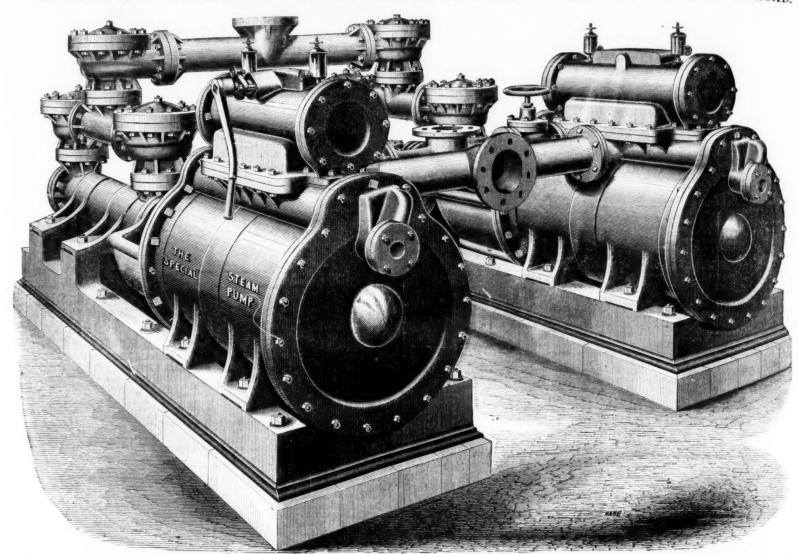
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THE "SPECIAL" DIRECT-ACTING STEAM PUMP.

OVER 12,000 IN USE IN ENGLAND AND AMERICA.

SUCCESSFULLY ADOPTED IN A LARGE NUMBER OF MINES IN THIS COUNTRY AND ABROAD.



PAIR OF THE "SPECIAL" DIRECT-ACTING STEAM PUMPS SUITABLE FOR HIGH LIFTS IN MINES, SIMILAR TO MANY SUPPLIED BY TANGYE BROTHERS AND HOLMAN

The following extracts from a letter, received by Tangye Brothers and Holman, from J. Bigland, Esq., dated Feb. 25, 1875, refers to a "Special" Direct-acting Steam Pumping Engine supplied four years ago to Messrs. Joseph Pease and Partners, for the Adelaide Colliery, Bishop Auckland. The engine is throwing about 8000 gallons per hour, 1040 feet high, in one direct lift:—
"The underground pumping engine at Adelaide Colliery is working night and day. It does its work astistatority, and gives us very little trouble. Some of the supleathers which form the plunger packing have worked three months. The working barrel is in beautiful condition. The average duration of the valve seats is about eight months; they work and keep tight as long as there is a bit of them left. I expect the valves (Holman's patent) and the buffers will last as long as the

Extract from a letter received by Tangye Brothers and Holman from W. H. Eagland, Esq., dated Feb. 27, 1875, in reference to a "Special" Direct-acting Steam Pumping Engine supplied two years ago to the West Yorkshire Iron and Coal Company near Leeds, to throw 16,000 gallons per hour, 465 feet high in one direct lift:—

"It is at work night and day. Our man goes down to the pump twice a day (Ten A.M. and Four P.M.), to supply the tallow cups. After this it is left every day till he comes next morning, when he goes down again at Ten A.M. as before. The only repairs the pump has had for 12 months are one bucket, which had worked since we got the pump, and one valve seat, but no valve, so it has cost very little. Its first lift is 70 yards perpendicular, then the water passes up pipes for half a mile, ascending another 70 yards, and then another perpendicular pipe of 15 yards—total, 55 yards vertical height..."

Extract from the Official Report of the Commission of the Grant Empire on the Vienna Exhibition of the 1873, treating on Pumping Englnes:-

"Contrary to these older pumping engines exhibited, there is now where the opinion established that the ("Special") pumping engine degrational, which are made on A. B. Cameron's principle by Mesispreferable to all. They do much duty combined with great computing pumping engines are not because of the property of the

200 SIZES AND COMBINATIONS OF THESE PUMPS ARE NOW MADE.

The following are a few of the Sizes for High Lifts in Mines 1-

Diameter of Steam Cylinder In. Ditto of Water Cylinder In. Length of stroke In. Gallons per hour approximate Height in feet to which water can be raised with 40 lbs. pressure per sq. in. of steam or compressed air at pump	3 24	8 3 24 1830 425	9 3 24 1830 540	9 4 24 3250 300	10 3 36 1830 665	10 4 24 3250 375	12 3 36 1830 960	12 4 36 3250 540	12 5 36 5070 345	14 4 36 3250 735	14 5 36 5070 470	14 6 36 7330 330	16 4 36 3250 960	16 5 36 5070 615	16 6 36 7330 426	16 7 36 9750 312	18 5 48 5070 775	18 6 36 7330 540	18 7 36 9750 400	18 8 36 13,000 300	21 5 48 5070 1058	21 2 6 3 7330 958 740 54
								CC	NTIN	UED.												
Diameter of Steam Cylinderln. Ditto of Water Cylinderln. Length of stroke	8 36	21 9 36 16,519 326	21 10 36 20,000 264	24 6 48 7330 960	24 7 48 9750 700	24 8 48 13,000 540	24 9 48 16,519 427	24 10 48 20,000 345	26 7 48 9750 827	26 8 48 13,000 633	26 9 48 16,519 500	26 10 48 20,000 405	26 12 48 30,000 282	30 8 48 13,000 840	30 9 48 16,519 665	30 10 48 20,000 540	30 12 48 30,000 375	30 14 48 40,000 275	32 8 48 13,000 960	32 9 48 16,519 758	32 10 48 20,000 625	32 12 48 30,000 400 426

PRICES OF THE ABOVE ON APPLICATION.—FOR SIZES AND PRICES OF PUMPS FOR LOWER LIFTS SEE SEPARATE LIST.

HOLMAN'S PATENT CONDENSER will be found a great acquisition to all kinds of Steam Pumps, as not only is the exhaust steam completely condensed, and the annoyance from safe blowing off entirely got rid of, but a vacuum is obtained in the steam cylinder saving from 20 to 50 per cent. in fuel, and increasing to a considerable extent the economy and efficiency of the Pamps

1876.

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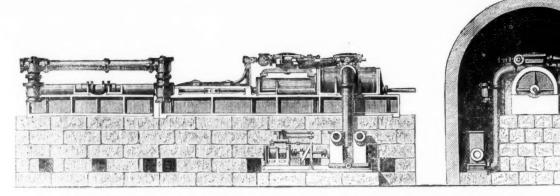
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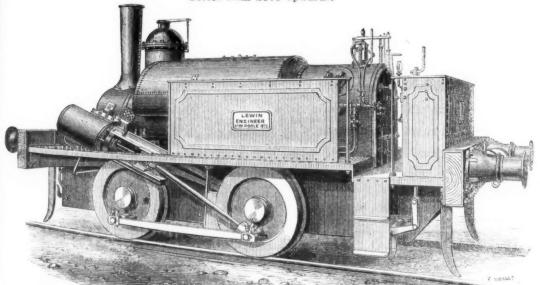
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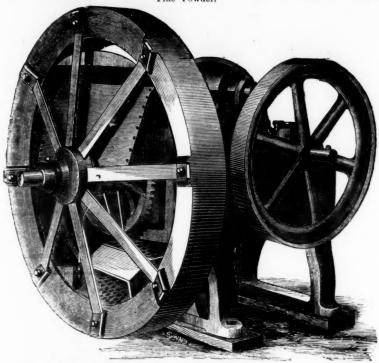
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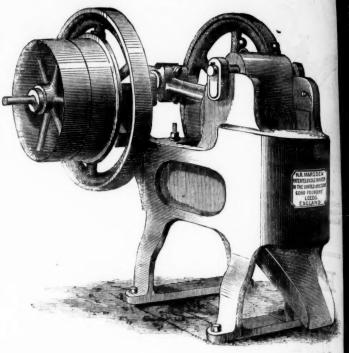
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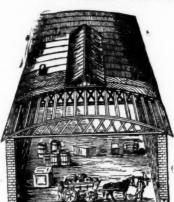
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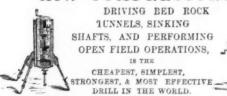
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